

U.S.D.A. FOREST SERVICE ENVIRONMENTAL STATEMENT  
EAST BRADFIELD TIMBER SALE

Prepared in Accordance With  
Section 102(2)(C) of PL 91-190

SUMMARY SHEET

- I. Draft ( ) Final (x)
- II. Forest Service Alaska Region
- III. Administrative (x) Legislative ( )
- IV. Brief Description of Action

The Environmental Statement covers the proposed harvesting of approximately 80 million board feet of mature Sitka spruce and western hemlock from the East Bradfield drainage. Timber, fish, wildlife, water, and outdoor recreation are all important resources of the area. The sale area is located on the mainland along the east fork of the Bradfield River, 38 miles southeast of Wrangell.

The silvicultural system proposed to harvest the timber is clearcutting. Timber would be harvested from 28 clearcuts over a four-year period.

Timber from the proposed sale would be hauled over approximately ten miles of existing roads constructed to harvest timber from the Bradfield River #1 Timber Sale. The existing log transfer site, bundling and raft storage areas at the Bradfield would be used. Approximately 23 additional miles of timber access roads would be constructed along the east fork drainage to harvest the timber.

V. Summary of Environmental Impacts and Adverse Environmental Effects

Timber harvest within the drainage would convert old growth slow growing stands, to young faster growing stands. Plant cover following harvest would consist of existing plant species. Wildlife behavior patterns would be modified by changes in habitat after clearcutting and road construction. Wilderness character would be lost along part of the East Bradfield River.

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Prepared in Accordance With  
Section 102(2)(c) of P.L. 91-190

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## I. DESCRIPTION

1. Purpose of Statement. This statement considers the environmental impacts of timber harvest in the East Bradfield River drainage.

2. Description of Action. The proposed action is to harvest timber in the East Bradfield River drainage over a four-year period. Approximately 80 million board feet of timber would be harvested from 28 cutting units using the clearcut silvicultural system and high-lead harvest techniques. A road network of 23 miles would be constructed to remove timber from the East Bradfield drainage.

The Bradfield drainage is located on the Stikine Area, Tongass National Forest, 38 miles southeast of Wrangell on the Alaska mainland, latitude 56° 14'N., longitude 131° 30'W. The proposed East Bradfield sale is located in the upper drainages of the east fork of the Bradfield River. This is the last sale planned during the current period of harvest activity in the East Bradfield drainage.

The entire area is located within the Tongass National Forest and is managed by the Forest Service. There are no known encumbrances on the land.

Even-aged management <sup>1/</sup> with clearcutting as the harvesting method, is proposed because of its silvicultural and economic advantages over other systems. Clearcuts larger than 160 acres are avoided where possible to reduce impact of the proposed sale on other resources. The clearcuts are designed with full consideration given to windfirm boundaries, risk class of timber, dwarf mistletoe incidence, wildlife, and other resource needs as well as economic factors.

The environmental objective of timber harvest is to fulfill the economic and social requirements of the Wrangell area, State, and Nation, and to increase the productivity of the site in terms of net timber growth.

The wildlife objective of timber harvest is to protect the wildlife resources and their long range ecological cycles in the East Bradfield River drainage.

Timber land on the Petersburg-Wrangell Working Circle, and on the Tongass National Forest in general, includes many stands that are mature or overmature; tree growth has leveled and in many instances stands are deteriorating. From a forest product standpoint, such stands are opportunities for harvest; their volumes will increase little, or decline in years to come. Harvest of commercial stands by certain silvicultural or stand management systems can result in

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<sup>1/</sup> Stand composed of trees having no, or relatively small, difference in age.

The proposed harvest of 80 million board feet of timber from 2,076 acres of commercial forest land in the East Bradfield drainage is part of the annual allowable harvest for the Petersburg-Wrangell Working Circle for the year in which it is sold. Any future timber harvest in the East Bradfield drainage would also be part of an annual allowable harvest.

The sale of sawtimber and wood fiber from the Tongass National Forest could contribute more to America's demand for wood products.

Although some ninety percent of the southeast Alaska sawtimber harvest is exported to Japan, eighty percent of Ketchikan Pulp Company's pulp production is sold in the domestic United States market, and supplies 25 percent of the entire United States domestic market requirement for dissolving pulp. 1/ The current competitive disadvantage of Alaska timber in the domestic market is limited to sawtimber (pulp is competitive). This disadvantage is brought on by a combination of factors; i.e., high transportation costs, higher harvesting costs, higher costs of meeting environmental protection demands, higher costs of processing, and higher percentage of low grade recovery than prevails in either Canada or the 48 contiguous States.

707,000  
Ketchikan Timber  
- produced  
- Japan  
APK

The day may come when the Continental United States can more economically utilize Alaska products in the domestic markets. By taking advantage of the present export market to utilize Alaska timber there will be a force of loggers and ongoing presence of a viable timber industry which has developed the capability to efficiently harvest timber in Alaska. There will also be healthy, growing forests on the areas cutover prior to that day that will meet future needs of America. The mature stands of trees that existed previously will have been converted to faster growing stands containing nearly twice the volume of the original stands. 2/

Commercial timber harvest within the east fork of the Bradfield River drainage is dependent on a larger set of assumptions and constraints.

Just as the Bradfield East drainage fits into a larger economic system, so does it fit into a coastal ecosystem valued for many reasons and uses. Those values will be focal points of discussion in the balance of this document.

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1/ Alaska Lumbermen's Association letter dated December 3, 1973, Appendix I.

2/ Forest Service Timber Management Plan, Petersburg-Wrangell Working Circle. North Tongass National Forest, 1960-1969.

6. Topography, Mineralization, Geology and Soils. The valley is a typical U-shaped glacier-formed area. The width of the valley floor at sea level is 1.5 miles. Width varies upstream from 0.25 to 1.25 miles. In the proposed harvest area, the valley is narrow (0.25 miles). Sideslopes vary from gentle grades near the valley floor to vertical cliffs near the summits of the surrounding mountains; elevations run from sea level to 6,185 foot peaks. The average gradient of the north fork of the Bradfield River is 5.5 percent. The gradient of the East Bradfield River in the proposed sale area is approximately 7 percent.

This gradient varies from pools to rapids and two falls. The falls are approximately 6-10 feet high. The entire river is also channeled through a rock cut 50 feet wide at the lower end of the proposed sale area.

The mineralization of the Bradfield River is characterized by the granitic plutonic rocks of the crest range batholith and by metamorphic rocks of diverse composition that form mainly northwest trending roof pendants. Prospecting has exposed several iron-copper bearing lodes at the contact zone of the pendants.

In 1955 claims were located covering an iron-rich deposit localized in a skarn on the north fork of the Bradfield River. It was prospected by a few trenches and pits, and aeromagnetic survey, and 186 feet of diamond drill holes. Further checking by large mining companies failed to show deposits sufficient in size and quality to be commercial at the present time.

The east fork of the Bradfield River originates in and flows through the granitic batholith which forms the backbone of the coast range. The glacially carved channels are steep-sided and generally U-shaped, with narrow valley floors, containing the meandering river channel.

Based on photo interpretation, the soils appear typical of those formed on intensely scoured mainland granitic landforms. The upper sideslopes and ridges are dominantly shallow organic soils and exposed bedrock. The timbered sideslopes are probably shallow (1/2 - 2 feet) well-drained soils with frequent rock walls, ledges, and outcrops. Rock and snow avalanche paths are common. Slopes range from 50 percent to greater than 100 percent.

The footslopes are mostly colluvial soils and are probably quite deep (5-15+ feet). These soils produce commercial timber except where colluvial and snow avalanche activity precludes conifer development. Well-drained alluvial soils mantle the valley floor and coexist with the meandering river channel. Many of these soils are subject to seasonal flooding. These soils support almost pure stands of Sitka spruce.

The area is covered with old-growth spruce and hemlock from sea level to about 1,800 feet elevation. Cottonwood is confined to the valley bottom along the river. Alder is normally found along stream courses, on areas of disturbance, such as old slide paths, and above timberline. Brush, shrub, and forb species are found throughout the area.

From 1966 to 1972, 4,022 acres of spruce-hemlock type have been cut in the valley. Four years after harvest, each unit is surveyed for regeneration. To date, 2,151 acres have been surveyed. The surveyed areas have been found to have the desired level of stocking of spruce and hemlock regeneration except for some areas within the first units logged in the valley bottoms. This stocking problem is caused by high water table, soil conditions, site disturbance during logging, and brush competition. In 1969 a pilot project was conducted to study the possibility of reducing brush competition with herbicides. This did not appear to be a feasible method of ensuring regeneration. Other projects are being tried on similar areas in southeast Alaska to solve this regeneration problem.

Natural regeneration is expected to be insufficient to assure adequate restocking of conifers on lower terrace soils and provision for planting with Sitka spruce, along with control of competing vegetation, will be made where necessary.

Colluvial soils with gentle slopes on valley bottoms and lower slopes are subject to invasion by red alder when soil is disturbed. Within existing clearcuts, alder is common on roads which have been closed and gravel borrow areas. The alder provides ground cover to reduce erosion and because of its nitrogen fixing ability serves as a nurse crop to put such disturbed land back into production.

## 9. Wildlife.

a. Terrestrial mammals. Brown bear, black bear, mountain goat, wolf, marten, mink, otter, beaver, and lynx are present in the drainage. Blacktail deer and moose have also been observed on rare occasions over the years.

Brown and black bear populations are moderate. Both species den in the upper portions of the drainage in the steep, rocky sideslopes. After emerging from their dens in May, the bears feed mainly on roots, forbs, and spring shoots. Only moderate spring use of the grass flats has been observed. As summer passes, the bears continue to feed on plants and berries. In August, limited feeding on spawning salmon occurs. Few areas exist where fish concentrate, and the fish are not as important to bear diets as in other areas of southeast Alaska. Heavy use is made of the grass flats during the fall. Many bears feed regularly on the grass, forbs, and roots of the flats until mid-October, when they disappear to den areas for the winter.

Ducks and geese heavily use the grass flats and lower river during the spring and fall migrations. There is little nesting in the area. All timber harvest in the lower river near the grass flats is completed. A fringe of timber was left around the flats as well as islands and stringers of timber within the flats. Most waterfowl use is on the north side of the flats, opposite the camp. The geese do use beaver ponds on the lower river within clearcuts. There is no indication that activity in the drainage has affected the waterfowl use. The proposed sale area is 10 miles from the flats and would have no effect on waterfowl use.

c. Fish. Four species of salmon enter the drainage to spawn during the summer and fall. These are king, coho, chum, and pink salmon. Due to the silt load in the main river, surveying for the number of spawners is difficult. Stream catalog information suggests a significant run of pink salmon in the north fork, but not in the east fork. King salmon carcasses have also been reported in the north fork. Gravels of spawning quality are evidently much more abundant in the north fork. It is likely that whatever kings are produced from this system are coming from small tributary streams. This may also be true for the coho population. Sediment load in the main stream may be a significant factor in limiting fish reproduction from otherwise good stream gravels.

There are five known tributaries which are used for spawning and rearing. These are all within the existing timber sales. Due to the U-shape of the valley, the usable portions of those streams are limited. There are two tributaries within the proposed sale area which appear to have potential as spawning streams. No fish or signs of fish have been seen in this area, however.

There is a velocity block to fish passage at the lower end of the proposed sale area. Approximately 13 miles upstream a 15-25 foot falls is thought to be impassable.

Lack of information on timing and magnitude of the salmon make it difficult to assess impacts. From limited information available, the Bradfield River drainage does not appear to be an important salmon producer. This is due to limited spawning areas and the turbid glacial waters of the Bradfield, which carry a heavy suspended silt load (Appendix G, Photographs).

d. Marine Organisms. Tidal action affects the lower river for approximately 2 miles from its mouth. The estuarine zone is an important part of the environment. As has been previously mentioned, bear and waterfowl make use of the estuarine zone. Harbor seals also feed in this zone and are sometimes seen a mile up the river.



of the greatest potentials for recreation is hunting, both for waterfowl and goats. Waterfowl are accessible by boat on the estuarine area. Goat hunting is limited due to the difficult access from the valley bottom to the ridges above.

Generally, a lack of quality sport fishing and difficult access limit recreation use in the valley. Most use will be made on the estuarine area, with access by boat. This is not expected to change in the future. The distance from population centers, inaccessibility, and shortage of quality hunting and fishing limit the recreation potential of the valley.

13. Transportation. Access to the Bradfield River drainage is by water or air. Geographic features and topography limit the likelihood of including this valley on any major road system. Due to frequent flooding and river channel changes, it is not advisable to maintain permanent bridges.

The proposed road system would average a favorable 5 percent grade along a 15 percent sideslope. The roads would be constructed of borrow overlay. The borrow used will come from gravel bars along the river and from rock pits. The proposed road system follows natural benches along both sides of the river. The lack of suitable bridge crossings and the difficulty of constructing bridges that would withstand flood waters (Appendix G), make a road system along both sides of the river necessary.

Because of the above, as logging is completed, water bars will be installed on roads, drainage structures will be removed, and the roads will be allowed to return to a natural state.

The existing road system in the Bradfield #1 Timber Sale would be used as part of the system to harvest the proposed sale. If sale is not sold the existing road system will be returned to a natural state. Any sales in the valley in the future would require reconstruction of now existing roads.

Once the timber is harvested, little need will exist for road access in the valley. Silvicultural treatments, such as thinning or fertilization, may be necessary; but air transportation costs for such work compare favorably with maintenance costs for a road system.

14. Fire. Due to the wet climate, wildfire is not a serious problem in southeast Alaska. For the first few years after harvest, slash and cull material provide an increased fuel problem. As the harvest areas revegetate fuel problems are reduced.

There will be some temporary increase in soil erosion due to road construction and timber harvesting. Soil movement will be held to a minimum by careful location and control of road construction, proper layout of highlead yarding settings, and prompt revegetation of exposed mineral soil susceptible to erosion.

3. Water. The east fork of the Bradfield is a glacial stream with a high natural sediment concentration. There might be a temporary increase in sediment in the streambed during timber harvesting activities. Research done on logging - sediment relationships in southeast Alaska indicate that sediment tends to increase in the streambed during logging operations, but return to original levels following logging (Sheridan and McNeil 1968).

The East Bradfield drainage receives a large part of its water from melting snowfields or small glaciers in the head waters. During periods of heavy rains and warm weather the east fork reaches flood water stage quickly, causing the waters to overflow into the Sitka spruce flats located along the lower reaches of the river.

The timber sale contract provides for the prevention and/or removal of logging debris put into salmon streams as a result of timber harvesting activities. The contract also prohibits the disposal of untreated solid and sanitary wastes into water courses.

Summer stream temperatures on the east fork may increase slightly following clearcutting along the stream banks. With the East Bradfield a glacial stream, the persistent cloud cover, frequent rains, and relatively low air temperature and solar radiation, the increase will be minimal. The effect from clearcutting on winter stream temperatures has been shown to be minimal (Meehan et. al. 1969).

4. Vegetation. Clearcutting and road construction would have a major impact on the vegetation. The mature and overmature climax stands of uneven-aged western hemlock and Sitka spruce would be harvested and replaced by young stands. For the first 20 to 30 years following clearcutting, grasses, forbs, and shrubs will cover the ground until young thrifty trees overtop them. 1/ On areas of exposed mineral soils and transportation routes not in use, alder usually regenerates for the first 30 to 60 years until conifers become dominant in the forest canopy. Regeneration problems are anticipated in areas subject to periodic flooding. These areas will be hand planted to ensure adequate stocking.

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1/ Understory - any plant growing under a canopy formed by others.

Fish habitat improvement projects could be accomplished more easily and economically with improved road access, availability of manpower, and logging equipment adjacent to the site. Habitat improvement projects are not part of the proposed timber sale program, but could be accomplished under a separate contract. Extensive research and coordination with the Alaska Department of Fish and Game would be necessary before these projects are undertaken.

d. Marine Organisms. The existing log transfer site, rafting and log storage areas currently under State tideland and Corps of Engineers permits will be used. Some pollution from leachates, bark, and sinker logs will occur around the log transfer point and rafting area, but concentrations will be found only immediately adjacent to the log raft. A Corps of Engineers permit (Appendix C) contains clauses which are designed to keep possible adverse effects to a minimum.

6. Roadless and Undeveloped Character. Perhaps one of the most significant on-site effects of harvest would be a loss of the present roadless and undeveloped character of the area. This character, as measured by the absence of man's mark on the landscape, would be lost on the road and in the sale units.

The larger undeveloped area (Appendix A) of which the proposed sale area is a part would be reduced by the extent of the road and sale units in the proposed action.

In the long run even-aged stands of hemlock and spruce will occupy the units and the road will have reverted to vegetation. The most obvious evidence of human activity 20 years hence could well be the roadbed itself.

7. Recreation. Aside from its undeveloped character, the East Bradfield would probably not in the long run give up any of its commonly sought recreational attractions. Areas of harvest activity would undoubtedly lack appeal to many forest users. While recreation use patterns following equipment removal might change somewhat, new patterns would likely be of comparable quality to those available prior to harvest. Increased populations of certain game species due to improved habitat for these species could increase hunter use of the area.

8. Transportation. The proposed timber harvest along the East Bradfield River would necessitate construction of a road system. The Bradfield River itself is a glacial stream subject to flooding during high water and capable of cutting new channels and shifting its course frequently within the confines of a broad braided streambed. Proposed roads and bridges will be engineered to withstand these fluctuations over the expected life of the sale, but permanent bridges would be difficult and expensive to build and maintain. The cost of developing a permanent road system with a

2. Wildlife. The irregular shaped clearcuts will increase the edge effect and diversity of habitat types and vegetation. An abundance of forbs and woody browse plants following logging will favor habits of brown and black bears, ground dwelling, seed-eating birds, as well as any deer or moose that establish themselves in the East Bradfield River drainage.

Fish and wildlife habitat improvement projects could be accomplished more readily due to road access.

3. Recreation. Temporarily increased access to the river drainage would provide a short-term benefit for those inclined to travel the road network.

4. Transportation. Access for forest product extraction and other land management purposes during the sale would be made possible by an extended road.

5. Socio-Economic. The largest industry in southeast Alaska is the woods industry which requires a continuous harvest of timber if the existing economy of the whole of southeastern Alaska is to be maintained. At the present time some ninety percent of the sawtimber harvested receives primary manufacture in Alaska and is exported to Japan. Approximately eighty percent of Ketchikan Pulp Company's pulp production is sold in the domestic United States market.

The value of exports to our international balance of payments has been summarized by Thomas C. Adams, principal economist for the Pacific Northwest Forest and Range Experiment Station in Portland, Oregon: "A National objective should be to transform valuable natural resources, on a sustained-yield basis, into an income stream that adds to the national product, thereby improving the living standards of the American people."

The communities of Ketchikan and Wrangell, which are adjacent to the sale area, are directly dependent upon the wood industry for their economic stability.

Exporting timber from Alaska also helps reduce the demand for forest products in the lower 48 states by reducing Japanese competition for lumber there.

*Richard B. H. Jr.  
presently export  
then would  
be over  
the timber*

With the existing road system, camp, log transfer site and bundling areas the East Bradfield Timber Sale can be placed into effective operation with less road and camp construction than most other sale areas. This would make a significant contribution to the maintenance of the southeast Alaska economy without the extensive fuel demand that would be required by other sale areas.

The significance of a reduced undeveloped character is dependent on many variables. One is judgmental; individuals will vary in their interpretations of the Bradfield River as a wilderness setting to be maintained. A second variable is degree of scarcity. The character of the area, the number of similar coastal areas, and numerous other factors determine to what extent the part of East Bradfield River proposed for timber harvest would affect the wilderness use demand.

#### V. ALTERNATIVE ACTIONS CONSIDERED

1. Inaction. It is physically possible to forgo plans for future timber harvest in the East Bradfield River drainage.

If further timber harvest in this drainage is avoided, increased harvest at other locations would be needed or there would have to be a downward adjustment in allowable harvest. This alternative would be viable if the adverse impacts of the proposed action were too great, or if the favorable effects did not significantly outweigh the adverse effects. The East Bradfield drainage was selected because of its available timber and limited conflict with other resources.

If the climax stands in this drainage are not cut the area would not be converted to young, faster growing stands.

The economy of the near-by communities of Wrangell, Ketchikan and Petersburg are highly dependent on the timber resource. Reduction of the availability of timber would seriously effect their economies. Each thousand board feet of timber cut is worth about 174 dollars to the local economy; thus, the 80 MMBF proposed for cutting is worth 13,920,000 dollars to the area economy.

2. Harvest of All Economically Accessible Commercial Timber in the East Bradfield Drainage During This Sale. This alternative assumes existing logging methods would be used to harvest all commercial timber economically possible to reach. The effects of such an action on other resources are as follows:

a. Timber. All commercial timber would be harvested. The entire valley would be converted to an even-aged stand. Timber production in the valley would be maximized. The greatest amount of timber would be harvested per mile of road. Windthrow losses in residual timber would be lower since all economically operable timber would have been removed. Control of dwarf mistletoe infection of new timber stands would be more effective because the infected overstory would have been removed over a greater area. Cost to government in design of cutting units and roads would be less.

Forest Land Use Plan, numerous public meetings, and land capability evaluations, made recommendations for Wilderness Study Areas on the Tongass National Forest. No part of the East Bradfield River drainage was proposed for study.

The need for wilderness ecotypes characteristic of the mainland was judged to have been met in three study areas approved by the Chief of the Forest Service.

A major portion of the Bradfield drainage would not qualify for Wilderness classification under present standards because of past timber harvesting activity. Over 4,000 acres of commercial timber have been harvested in the drainage.

Public meetings held in conjunction with development of the Land Use Plan indicated the desire for wilderness in areas adjacent to Bradfield Canal. There were indications that because of the present developed character of the Bradfield River, Wilderness classification would be undesirable in that specific locale.

#### VI. RELATIONSHIP BETWEEN SHORT-TERM USES OF MAN'S ENVIRONMENT AND MAINTENANCE OF LONG-TERM PRODUCTIVITY

Timber harvest in the East Bradfield River would provide raw material needed to meet State, National, and International timber demands. Actual human use of the area during the harvest period is expected to be generally limited to use by camp residents. Recreational hunting, trapping, and fishing use by residents will supplement the economic benefits of harvesting. After harvest, road access will not be available and use will revert to original patterns.

Harvesting the overmature timber will increase the long-term wood fiber productivity of the valley by allowing young healthy stands to become established. The second-growth stands established after clearcutting are expected to contain about 50 percent spruce, compared to 36 percent at present, thus increasing the long-term value increment (the stumpage value of Sitka spruce is greater than that of western hemlock and is expected to remain so).

Studies also indicate that areas now being harvested will produce twice as much volume per acre in the next rotation. The harvest can be done in such a way that long-term productivity of other resource values in the valley will not be seriously compromised.

#### VII. IRREVERSIBLE OR IRRETRIEVABLE COMMITMENT OF RESOURCES

The land management option of wilderness use, as commonly interpreted under the Wilderness Act, would be lost in the area.

The main issues raised and Forest Service responses are as follows:

A. Federal Agencies

1. Department of Housing and Urban Development

- a. The statement does not indicate the manpower requirement or the time requirements to complete the timber harvest.

This has been added in Section II, Item 10 on page 16.

2. Environmental Protection Agency

The Environmental Protection Agency reviewed the draft impact statement and ascertained it adequately considers the environmental impact of the proposed project. The EPA classified this statement as LO-1.

3. Advisory Council on Historic Preservation

- a. The draft environmental statement does not state whether or not the proposed undertaking will result in the transfer, sale, demolition, or substantial alteration of potential National Register properties.

A section relative to archeology has been added to the Description on page 12.

- b. Recommended the State Historic Preservation Officer be contacted and a copy of his comments be included in the statement.

The State Historic Preservation Officer was contacted and his reply is included in Appendix I.

4. Department of Transportation - Federal Highway Administration

- a. Would like the following points elaborated upon: Length of road to be constructed, typical cross sections, including percent of maximum side slopes and grades, construction techniques, cut and fill or borrow overlay, erosion control prevention methods planned for roads, and considerations of the alternative of a single road with a series of bridges.

The description, page 1, was expanded to show length of proposed timber access roads to be constructed. Item #13 Transportation was expanded to include description of proposed road construction along the east fork of the Bradfield. Section II, Environmental Impacts, Item 2 Geology, Mineralization, Soils, Topography was expanded to cover preventative measures planned.

Section II, Environmental Impacts, Items #2, 3, and 5 have been expanded to further define impacts.

b. No indication that corrective and protective aspects are contained in the timber sale contract.

The East Bradfield Timber Sale contract, as do all, contains clauses requiring protection of other resources. These requirements are carried into logging plans for each area.

c. A more thorough discussion of specific project impacts would be desirable.

Section II, Environmental Impacts, has been expanded to describe predicted impacts on the resources in the drainage.

d. What are the impacts anticipated from construction of the timber access roads in the narrow valley.

In the description section, Item 13 Transportation, the need for roads on both sides of the valley was discussed in the final statement. The impacts from road construction are discussed in Section II, Environmental Impacts under Item 2 Soils, Item 3 Water, and Item 4 Vegetation.

e. A contradictory point concerning the roads exists on pages 11 and 14. The existing temporary roads were used to economically justify the sale and later 23 miles of road was justified on basis of proposed timber harvest.

On page 11, it is stated that feasibility of the sale hinges on using the existing road system prior to deterioration. The proposed sale would be unable to cover the increased cost of completely rebuilding the existing road system. On page 14 it is stated that if sold as planned, 23 additional miles of road are necessary to harvest the commercial timber in the East Bradfield drainage using highlead harvesting techniques.

f. Damage to wildlife habitat has not been adequately described.

Wildlife studies have been conducted on the Tongass National Forest to evaluate the effect of clearcutting on wildlife. The final statement contains references to studies which describe the effects of clearcutting. The proposed clearcuts along the East Bradfield drainage are designed to provide edge habitat and space to allow both vertical and horizontal movement for wildlife.

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B. State Agencies

State of Alaska, Office of the Governor

(Department of Community and Regional Affairs)

a. Questions the beneficial effect of removing log jams. They appear to be overstated and require further analysis or explanation.

This has been clarified in the final statement. There exists in the lower portion of the sale area, a falls thought to be impassable by salmon. The proposed timber access roads pass near this velocity block providing the opportunity, if desirable, to remove the obstruction to fish. Any other projects thought desirable to wildlife habitat could be accomplished while the access roads and machinery are in the drainage. The Timber Sale contract provides for protection of existing resources.

b. The final statement should indicate more precisely the location of the road, bridges and culverts.

Appendix B shows the location of the proposed timber access roads and bridges. The actual road locations have been flagged on the ground. The roads are located away from the main stream wherever possible to reduce impacts on water quality. The number of culverts to be used along the road system are too numerous to be shown on the map. A culvert is placed wherever cross drainage is needed.

(Department of Highways)

c. Do not believe the proposed action will in any way affect present or future operations of the Department of Highways.

(Department of Economic Development)

d. Timber sale will contribute significantly to southeast Alaska's economy.

(Department of Environmental Conservation)

e. To evaluate the environmental impact of the logging operation, a logging plan should be included.

The statement serves as a basis for a logging plan. The logging plan describes where timber will be harvested, harvesting methods to be used, miles of road to be constructed and construction techniques, and protective measures contained in

j. Further alternatives covering the harvesting of timber farther up the slope and shorter distances along stream bottoms should be included in statement.

The commercial timber located above proposed clearcuts is not economically feasible to harvest at this time with existing harvest systems and market prices. A sale in the East Bradfield drainage, to be economically feasible, makes it necessary to include the large volume of timber to ensure a fair return to purchaser and the Government.

k. There is a paradox in discussion of tree growth in the valley bottom since total sale is valley bottom.

We define regeneration problems in the valley bottom; i.e., those areas subject to periodic flooding from the main river. Only one or two percent of the area proposed for harvest is subject to periodic flooding. These areas will be hand planted to ensure adequate stocking.

l. Statement stated no effect on waterflow, but impact from camp, roads, log dumps, and airstrips would cause some impact.

We agree there will be some impact on waterflow from timber sale activities. We also described this impact and cited sources of studies that predicted the effects on waterflow.

m. Only passing mention of herbicide and fertilizing projects and possibilities. If there are such plans in the future, they should be discussed and any past experiments mentioned.

Sitka spruce seedlings will be planted in areas along the river which are subject to flooding and/or severe brush encroachment. Grass seed and fertilizer will be applied to areas of exposed soil susceptible to erosion. If it is determined desirable in the future, stand thinning, fertilizing and dwarf mistletoe suppression will be conducted. The second paragraph on page 7 discusses a past herbicide spraying project.

n. Rejects the Forest Service statement that the timber harvest is not expected to cause any significant air or water pollution. We believe the milling, transportation, log dumps and storage areas and other satellite operations are a part of this operation and should be considered.

The milling operations associated with the proposed timber sale could be at any of the communities in southeast Alaska with primary manufacturing facilities. These milling operations involve removing logs from water to mill, barking, sawing, chipping mill residue and loading lumber products for transportation to mar-

The irregularly shaped boundaries of the proposed clearcuts will provide a source of browse during the critical deep winter snows. Only one or two deer and moose have been seen in the Bradfield valley. Brown bear, black bear and mountain goats are the primary big game animals found in the valley. The brown and black bears will better utilize the available browse food during the summer. The goat population along the valley will utilize the available browse along the clearcut edges during the winter. The leave areas between clearcuts will offer protection from deep snow.

q. A more thorough discussion of the irreversible and irretrievable effects of the logging should be made.

The use of the East Bradfield drainage for wilderness, as commonly interpreted under the Wilderness Act, would be lost. There would be limited modification of soil and rock required for road construction and timber harvest. The climax stands at the Bradfield are presently many-aged in that a variety of age classes are found scattered throughout the stands. The new stands established following clearcutting will be even-aged. The forest ecology of the East Bradfield drainage will be changed when the young stands become established after removing the climax stands.

r. Statement should cover the issues which are controversial at this time, barging versus rafting, chipping in the field, water storage and total utilization of timber.

Transportation of logs by barging in southeast Alaska is currently being studied. We know that barging would greatly reduce loss of logs and result in less beach accumulation, less navigational hazards to small boats, and less log contact with saltwater. However, this would require more permanent and elaborate land based handling facilities that are quite costly. These have their own set of environmental impacts on land resources. We are encouraging the use of log barges and recognize that the transition will take time.

Chipping in the field is not feasible at the present time. The high cost of specialized equipment and limited transportation facilities for containers needed to remove material make chipping in the field economically unfeasible. There is also a disposal problem of bark and waste unusable for chipping.

The total utilization of the timber in the East Bradfield drainage is impractical at this time. There are no markets for unusable material, bark and limbs at the present time. The timber sale contract provides for removal of all merchantable material.

v. Further discussion of how the Bradfield River valley is integrated with the Petersburg-Wrangell Working Circle is needed to determine volume of commercial timber available, amount of new growth, effect of multiple-use consideration and years required to produce new stands.

In Section I of the statement, the Petersburg-Wrangell Working Circle, commercial timber available, effect of new growth and years to produce new stand, were explained. The integration of the Bradfield Valley commercial timber with the Working Circle was also explained.

w. The subject matter under Description, pages 4 through 11, is mostly descriptive. The section on wildlife is very general.

The material on pages 4 through 11 is designed to give the average reader of the statement enough information and technical data to have a reasonably clear understanding of the nature of the proposed action. This includes but is not limited to a description of the present environment, location, size, landownership and status, physiography, ecosystems, climate, and other special features.

x. This statement should indicate the kinds of ecological relationships between the bio-physical and botanical entities of the area.

There will be very little disruption of the existing bio-physical and botanical entities in the East Bradfield drainage with only 3.4 percent of the area proposed for harvesting. From an ecological standpoint these stands are undergoing constant bio-physical and botanical changes.

y. There is need to discuss the ecological role played by the natural forest in sustaining streams, waterfowl and game habitat.

The environmental statement is not intended to be a treatise on ecology. Environmental Protection Agency guidelines pertain to the need to identify natural resource values and visual changes which might be expected as a result of the proposal. In this way alternatives can be developed and viewed in perspective, and special requirements may be developed and implemented to minimize environmental impacts. The environmental statement addresses itself to these points in the Description, and Identification of Impacts.

The permanency and non-permanency of the road system, material sources and types of construction material is explained in the Description, page 11.

dd. The location and extent of sites to be used for land storage and cold decking of logs should be shown.

There are no plans for land storage and cold decking logs at the Bradfield. The logs will be hauled directly to the log transfer site, lifted into the water, rafted and towed or barged to the mill.

ee. What alternatives for log dump sites, rafting and temporary log storage area are there?

There are no other areas of the Bradfield practicable for a log transfer facility, rafting or temporary storage area. The area is composed mainly of a large shallow tidal flat which restricts access and is unsuitable for log transfer, rafting and storage. Construction of log transfer facilities beyond the tidal area would require a road across prime estuarial habitat with significant impact on that ecosystem.

ff. The existing tideland permits and Corps permits shown in Appendixes C and D must be modified and updated.

The tideland permit was updated in October, 1972 to cover the existing log transfer site, bundling and storage area.

A Corps of Engineers Permit was obtained in October, 1972 for the deep water storage area.

In each case, these permits were subject to a multi-agency review.

gg. Present location of dump pad and rafting pond is unsatisfactory.

The dump pad and rafting pond have been in almost continuous use since their construction in 1966 with little apparent ecological impact. The continuous flushing action within the rafting pond precludes significant bark accumulations. The log transfer facility and access roads were constructed away from the prime estuarine areas.

hh. Detailed discussion of past utilization of the site for dumping and rafting is needed.

11. The inclusion of a bibliography indicating sources of information would enhance the statement.

Literature cited has been added to the final statement.

(The Department of Public Works)

mm. This Department has reviewed the subject Environmental Impact Statement. It is well proposed.

We have no adverse comments on the proposed sale. Our Buildings, Aviation, Marine Transportation, and Water and Harbors Division would be very beneficially affected.

C. Others

1. Thomas E. Horobik

a. Expressed dismay at the number of times the statement indicates uncertainty concerning damage to environment.

The final statement was expanded to include input from specialists wherever possible. Some aspects of logging and related activities and their potential impacts on the environment are currently under study. Information from these studies will be a continuing thrust for improving environmental impact assessment.

b. Proposed that all lands within roadless areas be eliminated from timber sales until their wilderness suitability has been determined.

In Section V (Alternatives), Wilderness classification was added as an alternative and explains that the Forest Service has recommended certain areas of land for study for possible inclusion into the Wilderness Preservation System. These recommendations were based upon a study of the lands' availability, suitability, and need for wilderness.

2. Alaska Lumbermen's Association

a. The backlog of uncut annual allowable cut accumulated during this five-year plan should be described. Point out that the proposal is within the established annual allowable cut.

We believe a discussion on accumulated uncut allowable cut is not germane to an individual timber sale. The Description, Item 3 East Bradfield in Perspective was expanded to show how East Bradfield sale is a necessary part of the annual sale program.

In Item 15, Socio-Economic, the need for an ongoing Timber Sale Program is shown. The Forest Service is presently accelerating the timber sale program to meet needs.

h. This sale can be placed into effective operation with less road construction than most other areas. A large percentage of the fuel consumed in a logging operation is consumed in road construction, thus reducing fuel demand.

We agree to a point. Fuel considerations are probably not as significant in this case as are the other environmentally coordinated plans involving the use of existing camp and log transfer facilities.

3. Mrs. Dixie M. Baade

a. Wants to know what evidence supports the statement that there are 80 MMBF on the 2,076 acres to be logged, and feels it should be presented in the environmental statement.

A statistically sound timber cruise by the Forest Service determined available volume. Background data such as cruising data remains on file and is available for public review.

b. Questions the 33 percent defect figure in the statement in describing soundness in old-growth stands, and indicates the chairman of the Tongass Conservation Society, in seven years experience of scaling rafted logs, found only an average of 15-20 percent defect.

Scaling logs in rafts is obviously different from scaling standing trees. Rafts contain logs from trees that have had unusable portions removed. The 33 percent defect figure we use describes the defect found in standing trees in the mature-overmature stands.

c. Indicates that the statement doesn't make clear what silvicultural methods are planned and that clearcutting in itself doesn't constitute silviculture and asks related questions.

Forest Service studies indicate that clearcut stands regenerate naturally and that subsequent volumes could nearly double without precommercial thinnings or fertilizing to enhance growth. We point out in the statement that silviculturally managed stands, implying thinnings and fertilizing, could substantively increase quality and growth. We agree that this point is not clear in the draft statement and have revised the text to make this point more clear.

Forest Service policy is to manage unreserved commercial forest land for maximum public benefit. This includes harvesting of the old-growth trees and establishing vigorous young growth where feasible in conjunction with other resource values. Some areas containing old-growth stands as well as a variety of other age classes have been set aside as Wilderness Study Areas, Recreation Areas, Scenic Areas and others.

i. Any sawtimber in the next 100 years will be of very small dimension.

At maturity, second-growth stands will produce higher volumes per acre than old-growth stands. Loss due to wood rot and insects will be less. Second-growth stands are being managed to maximize lumber production though diameters will be somewhat less than found in old-growth trees.

j. Quote source of information, "Ice Ages and Northern Forests" that clearcutting could decrease the absorbed radiation in the Northern Hemisphere and trigger a new ice advance.

The effects of clearcutting on absorbed radiation from this sale is limited to immediate area around the clearcuts. The radiation absorption rate of a clearcut would increase each year as young stands become established.

k. Information on numbers, species, and distribution of wildlife appears to be lacking.

Information is lacking on numbers and distribution of wildlife in the East Bradfield drainage. Wherever possible, the statement was changed to clarify the limited information available on wildlife patterns and species found in the Bradfield drainage. In seven years of timber harvesting at the Bradfield (starting in 1966) there has been no apparent impact on number and distribution of wildlife species.

l. It is necessary to know the total areas planned for cutting in the Bradfield drainage and to assess impact on wildlife.

Areas planned for cutting are described in this statement. We recognize that there may be some disruption of wildlife habitat for some species as well as some habitat enhancement.

m. Environmental impact statement ignores the fact that the brown bear does not tolerate human activities.

The impact of timber harvesting on brown bear in the Bradfield drainage is discussed under Section I, Description, Item 9 Wildlife.



Appendix A

General Map of Bradfield River Drainage  
and Surrounding Area

Appendix B

Map Indicating Sale Unit Locations,  
Roads, and Proposed Harvest Area

Appendix C  
Corps of Engineers Permit

WRANGELL



DEPARTMENT OF THE ARMY

ALASKA DISTRICT, CORPS OF ENGINEERS

P.O. BOX 7002

ANCHORAGE, ALASKA 99510

REPLY TO  
ATTENTION OF: Bradfield Canal 1

NPACO-OP-P

17 October 1972

Mr. R. W. Bird  
Wrangell Lumber Company  
Post Office Box 621  
Wrangell, Alaska 99929

Dear Mr. Bird:

In accordance with the application made by the United States Forest Service on 4 May 1972, transmitted is a Department of the Army permit which authorizes the construction of a log raft storage area in Bradfield Canal, approximately 38 miles southeast of Wrangell, Alaska.

As requested by the Forest Service, the permit has been transferred to the Wrangell Lumber Company. Proper notation of transfer has been placed on the face of the permit. Please note that, as assignee, your company assumes all responsibilities stipulated in the permit document.

You are cautioned that if the work done is not in accordance with the plans attached to the permit and the special conditions outlined in our letter of 17 August 1972 to the Forest Supervisor, North Tongass National Forest, a copy of which is inclosed, such work is considered illegal and may impair its sale or security value or may place you at a disadvantage in suits for damages as a result of collision or other accidents. If any material changes in plans or location of the work are found necessary due to unforeseen or altered conditions, you are required to submit revised plans promptly for approval before initiating construction.

In accordance with paragraph (m) of the document, it is requested that you notify this office as soon as possible of the commencement and completion dates of the work authorized in the attached permit.

Sincerely yours,

A handwritten signature in cursive script, reading "David J. Nicholls", is written over the typed name.

DAVID J. NICHOLLS  
Chief, Operations Branch

2 Incl  
As stated

Copy furnished:  
Forest Supervisor, North Tongass National Forest

(a) That this instrument does not convey any property rights either in real estate or material, or any exclusive privileges; and that it does not authorize any injury to private property or invasion of private rights, or any infringement of Federal, State or local laws or regulations, nor does it obviate the necessity of obtaining State or local assent required by law for the structure or work authorized.

(b) That the structure or work authorized herein shall be in accordance with the plans and drawings attached hereto and construction shall be subject to the supervision and approval of the District Engineer, Corps of Engineers, in charge of the District in which the work is to be performed.

(c) That the District Engineer may at any time make such inspections as he may deem necessary to assure that the construction or work is performed in accordance with the conditions of this permit and all expenses thereof shall be borne by the permittee.

(d) That the permittee shall comply promptly with any lawful regulations, conditions, or instructions affecting the structure or work authorized herein if and when issued by the Water Programs Office of the Environmental Protection Agency and/or the State water pollution control agency having jurisdiction to abate or prevent water pollution, including thermal or radiation pollution. Such regulations, conditions, or instructions in effect or hereafter prescribed by the Water Programs Office of the Environmental Protection Agency and/or the State water pollution control agency are hereby made a condition of this permit.

(e) That the permittee will maintain the work authorized herein in good condition in accordance with the approved plans.

(f) That this permit may, prior to the completion of the structure or work authorized herein, be suspended by authority of the Secretary of the Army if it is determined that suspension is in the public interest.\*

(g) That this permit may at any time be modified by authority of the Secretary of the Army if it is determined that, under existing circumstances, modification is in the public interest.\* The permittee, upon receipt of a notice of modification, shall comply therewith as directed by the Secretary of the Army or his authorized representative.

(h) That this permit may be revoked by authority of the Secretary of the Army if the permittee fails to comply with any of its provisions or if the Secretary determines that, under the existing circumstances, such action is required in the public interest.\*

(i) That any modification, suspension or revocation of this permit shall not be the basis for a claim for damages against the United States.

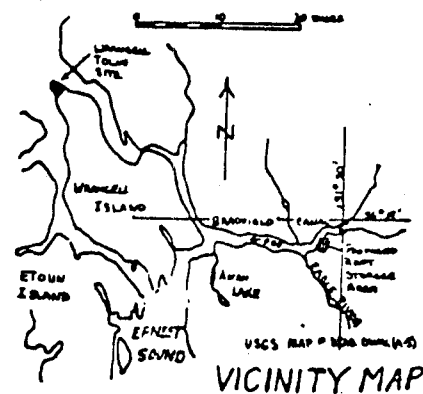
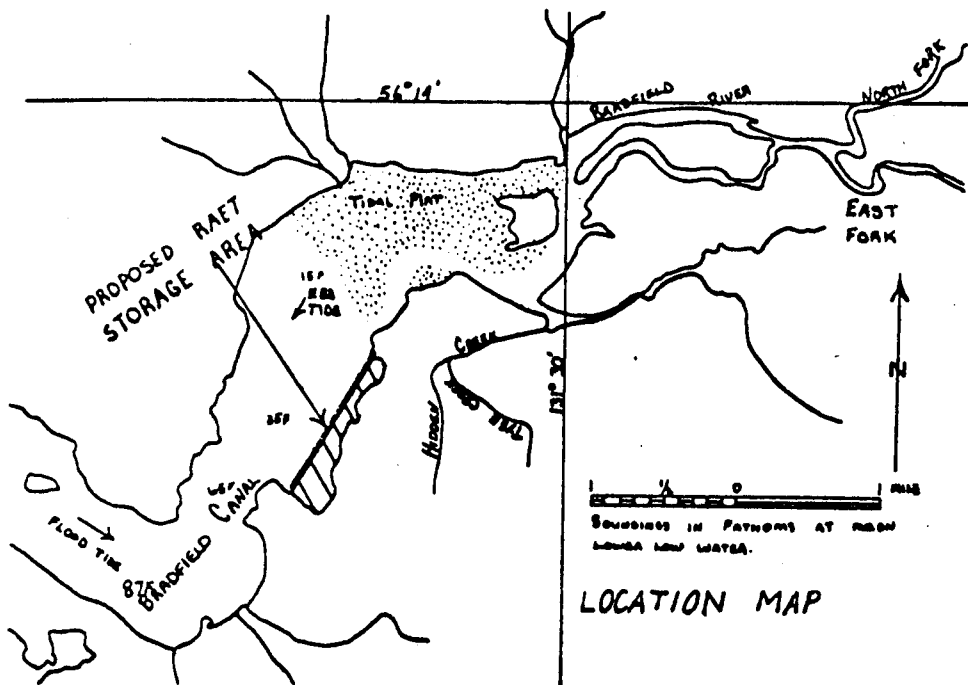
(j) That the United States shall in no way be liable for any damage to any structure or work authorized herein which may be caused by or result from future operations undertaken by the Government in the Public interest.

(k) That no attempt shall be made by the permittee to forbid the full and free use by the public of all navigable waters at or adjacent to the structure or work authorized by this permit.

(l) That if the display of lights and signals on any structure or work authorized herein is not otherwise provided for by law, such lights and signals as may be prescribed by the United States Coast Guard shall be installed and maintained by and at the expense of the permittee.

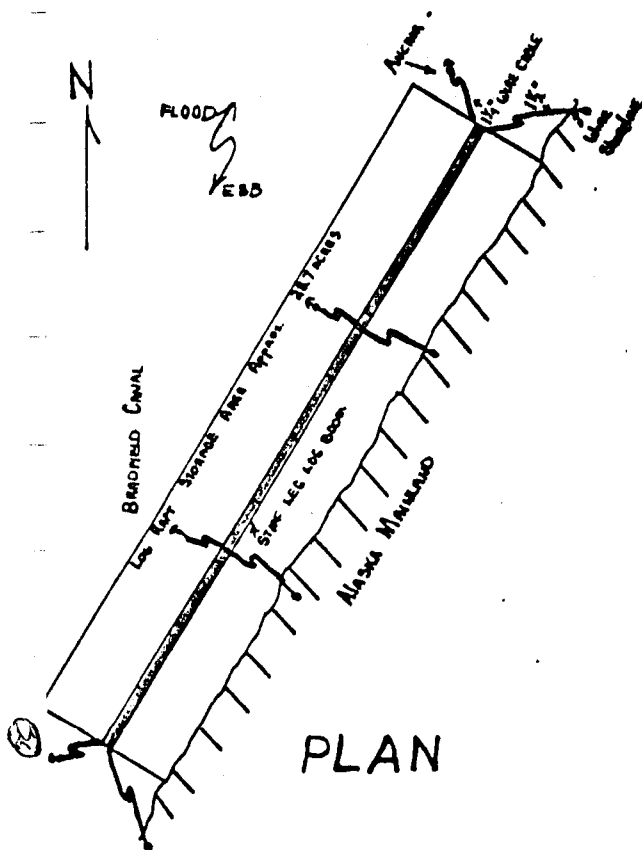
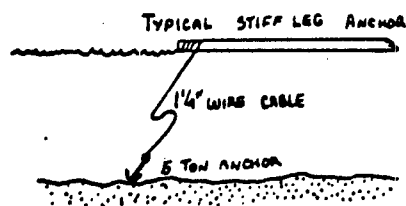
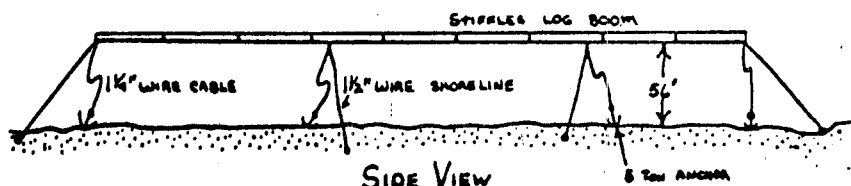
(m) That the permittee shall notify the District Engineer at what time the construction or work will be commenced, as far in advance of the time of commencement as the District Engineer may specify, and of its completion.

(n) That if the structure or work herein authorized is not completed on or before the 31st day of December, 1975, this permit, if not previously revoked or specifically extended, shall cease and be null and void.



TIDAL DATA	
EXTREME HIGH WATER	20.3'
MEAN HIGHER HIGH WATER	16.8'
MEAN HIGH WATER	15.6'
MEAN LOW WATER	1.4'
MEAN LOWER LOW WATER	2.0'
EXTREME LOW WATER	-4.2'

SCALE IN FEET



PROPOSED LOG RAFT STORAGE AREA  
 IN: BRADFIELD CANAL  
 OFF ERNEST SOUND, APPROX. 38  
 MILES S.E. OF WFANGELL, ALASKA  
 BY: FOREST SERVICE, UNITED STATES  
 DEPARTMENT OF AGRICULTURE  
 DATE: MAY 4, 1972 SHEET 1 OF 1

Appendix D

State tidelands permit

STATE OF ALASKA  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF LANDS

AUTHORIZATION AND RECORD OF USE OF

TIDELAND AND SUBMERGED LAND

Land           X            
Material                     

Authorization No. NT-180  
Date 11/7/72

This authorization is issued by the United States Forest Service, subject to a Memorandum of Understanding dated February 28, 1961, between U. S. Forest Service and State of Alaska, Department of Natural Resources, for the use of tidelands and submerged lands and materials therein for its own use or the use of its contractors when such tidelands and submerged lands are seaward of national-forest lands.

Authorization is hereby granted Wrangell Lumber Company  
Name of Operator  
of Box 621, Wrangell, Alaska 99929  
Address

Location and description of land Approximately 10 acres of tideland around the log dump and rafting area and approximately 70 acres of raft storage in deep water adjacent to Bradfield River delta. Latitude 56°20'N., Longitude 131°25'W.

Approximate acres 80

Quantity of material (cubic yards) N/A

Purpose required of land and/or material A dump pad, rafting pond and raft storage area.

Used in connection with U. S. Forest Service Contract No. 03-213, Bradfield North  
(Forest Service timber sale contract or other F.S. contracts)

War Department Permit No.            Applied for            Date February 18, 1972  
(Bradfield Canal 1, 4 May 1972)

This authorization will serve as a license for an individual use to a specific operator subject to the following conditions:

1. This authorization is used FREE for the period July 1, 19 72, to June 30, 19 76, and is revocable for any breach of the conditions herein. It is also revocable at the discretion of the Director of the Division of Lands at any time upon notice, if in his judgment the lands should be devoted to another use. This authorization is subject to valid existing claims.

2. The operator shall observe all Federal, State, and local laws and regulations applicable to the premises, including the regulations for the protection of game birds and game animals, and shall keep the premises in a neat, orderly, and sanitary condition.



Special requirements \_\_\_\_\_

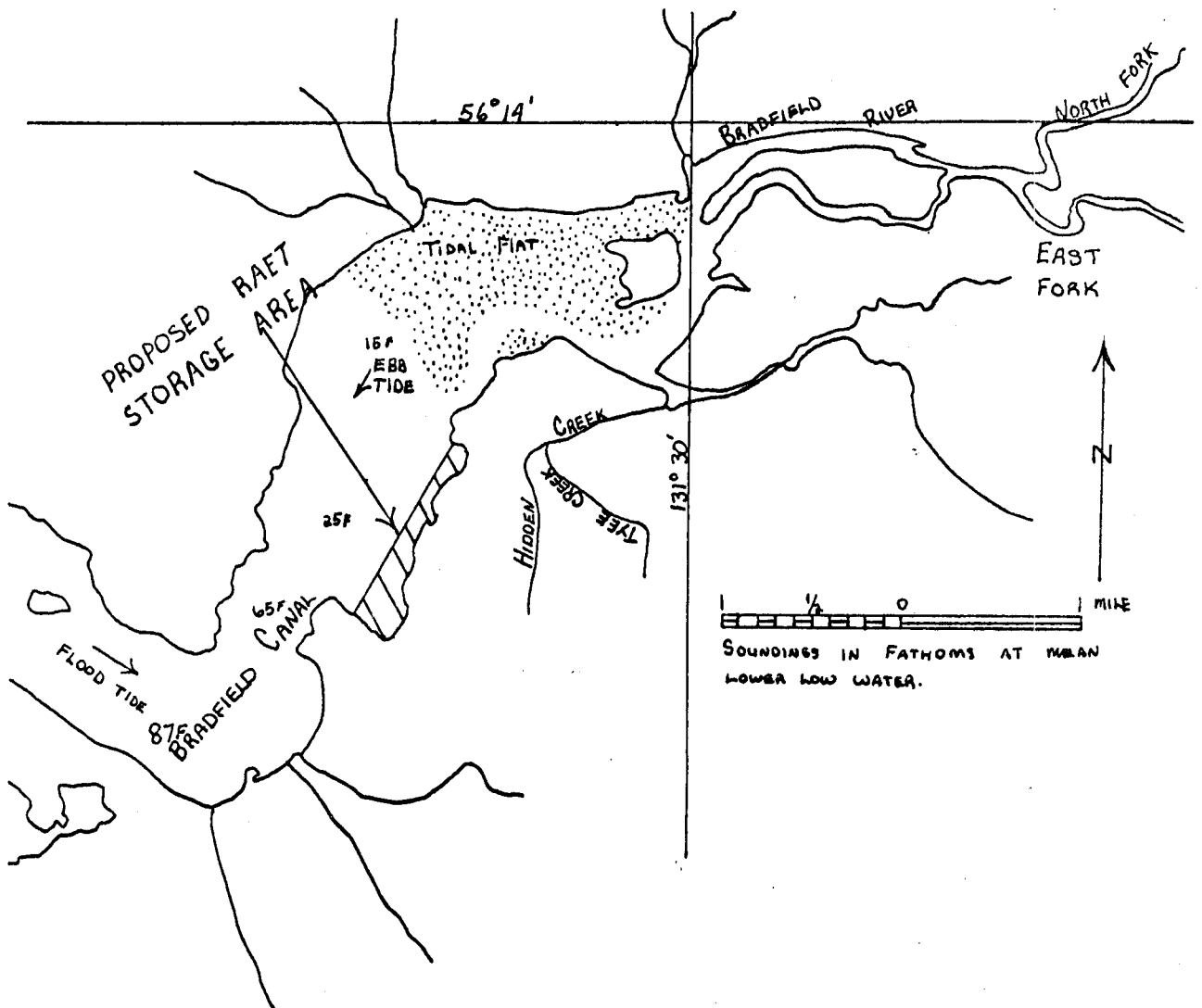
Approval of designated Department of Fish and Game officer:

John Palmer  
Regional Habitat Coordinator 4/24/72  
Title Date

Approved:

A. H. Sison  
Operator  
Vice President 5-9-72  
Title Date

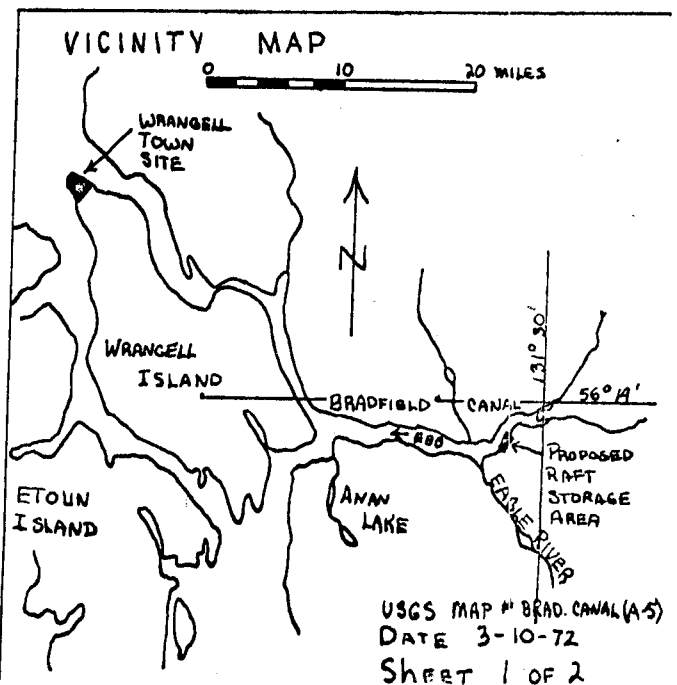
Vincent M. Oler  
Forest Service Officer  
Harold S. Sponen 11/7/72  
Title Date

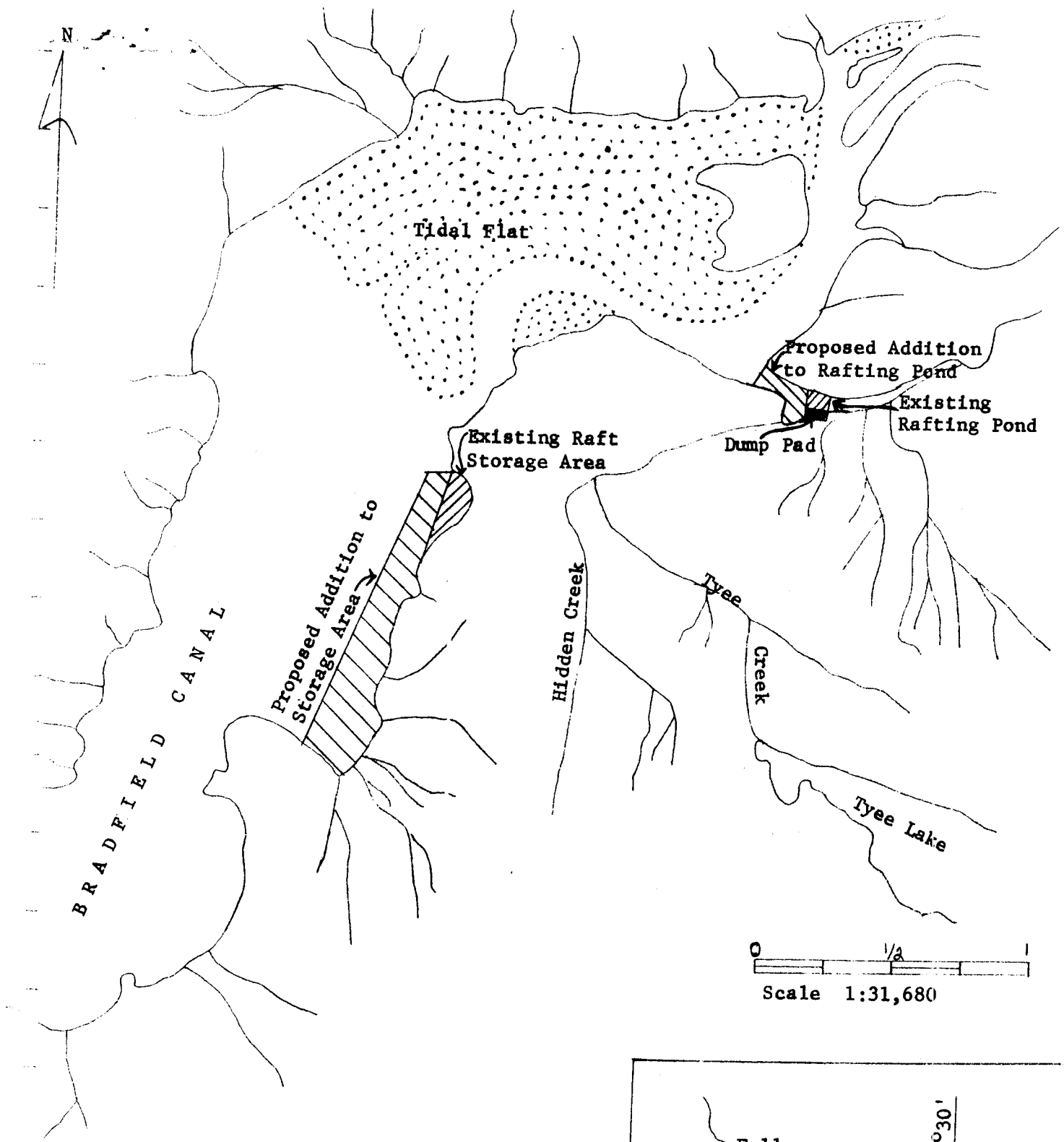


## PROPOSED RAFT STORAGE AREA

IN: BRADFIELD CANAL  
ON: ALASKA MAINLAND  
BY: UNITED STATES DEPT.  
OF AGRICULTURE  
FOREST SERVICE

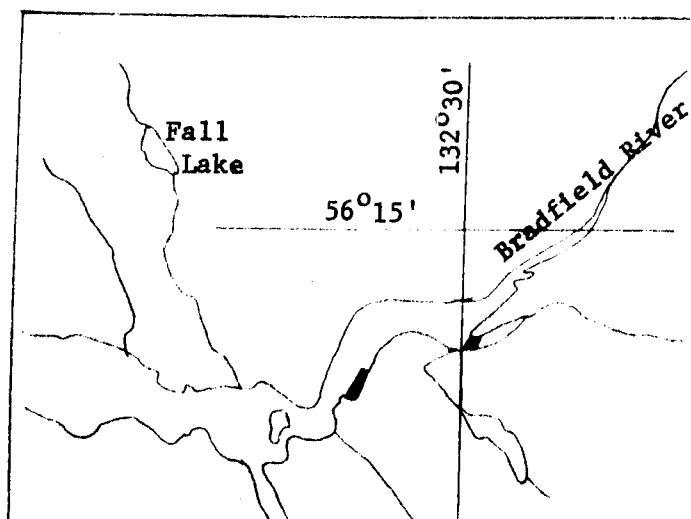
TIDAL	DATA
EXT. H.W.	20.3'
M. H. H. W.	16.8'
M. H. W.	15.6'
M. L. W.	1.4'
M. L. L. W.	0.3 - EXT. L. W. -4.2'





**PROPOSED LOG DUMPS, BOOMING GROUNDS  
AND RAFT STORAGE AREA**

Situated in Bradfield Canal,  
38 air miles southeast of  
Wrangell, Alaska



Appendix E  
Climatological Data

	Eleva- tion (feet)	Latitude (North)	Longitude (West)	Mean Annual Temperature (°F.)	Mean Annual Precipitation (Inches) (P)	Potential Evapo- transpiration (Inches) (PET)
Ketchikan	15	55°21'	131°39'	46.1	151.19	23.74
Wrangell	37	56°28'	132°23'	43.7	82.90	22.60

	Actual Evapo- transpiration (Inches) (AET)	Surplus P-PET	Index of Humidity $I_h = \frac{100(P-PET)}{PET}$	Deficit PET-AET
Ketchikan	23.74	127.45	536.9	0
Wrangell	22.56	60.30	266.8	0.04

Appendix F

Petersburg-Wrangell Working Circle  
Volume Data

PETERSBURG-WRANGELL WORKING CIRCLE

Total land area all classes and ownerships 3,286,600 acres

Less area of:

(1) Nonforest land	930,000	
(2) Noncommercial forest land	1,327,400	
(3) Commercial forest land:		
Alienated ownership (private land)	11,000	
National Forest restricted area	50,900	1/
National Forest reserved area	None	
National Forest inaccessible area	284,510	2/
		<u>2,603,810 acres</u>

Net regulated National Forest accessible  
commercial forest land 682,790 acres

Inventoried volumes for the working circle appear in the following table.

Petersburg-Wrangell Working Circle

Total inventoried volume on commercial forest  
land 33,439,464,000 board feet

Less volume of:

(1) Alienated ownership (private land)	365,024,000	
(2) National Forest restricted area	1,557,920,000	1/
(3) National Forest reserved area	None	
(4) National Forest inaccessible area	9,050,852,000	2/
(5) National Forest unregulated species	1,916,031,000	
		<u>12,889,827,000 board feet</u>

Net regulated National Forest accessible  
inventoried volume 20,549,637,000 board feet

---

1/ In the absence of detailed plans for uses other than timber production, it is estimated that for five percent of commercial forest land area and volume, there will be prescriptions restricting the usual silvi-cultural management of timber. Of this, 90 percent is estimated to be within the area presently classified as accessible commercial forest land. Cutting in these restricted areas is regulated cut.

2/ Inaccessible commercial forest land supports merchantable timber for which commercial harvest techniques have not been developed.

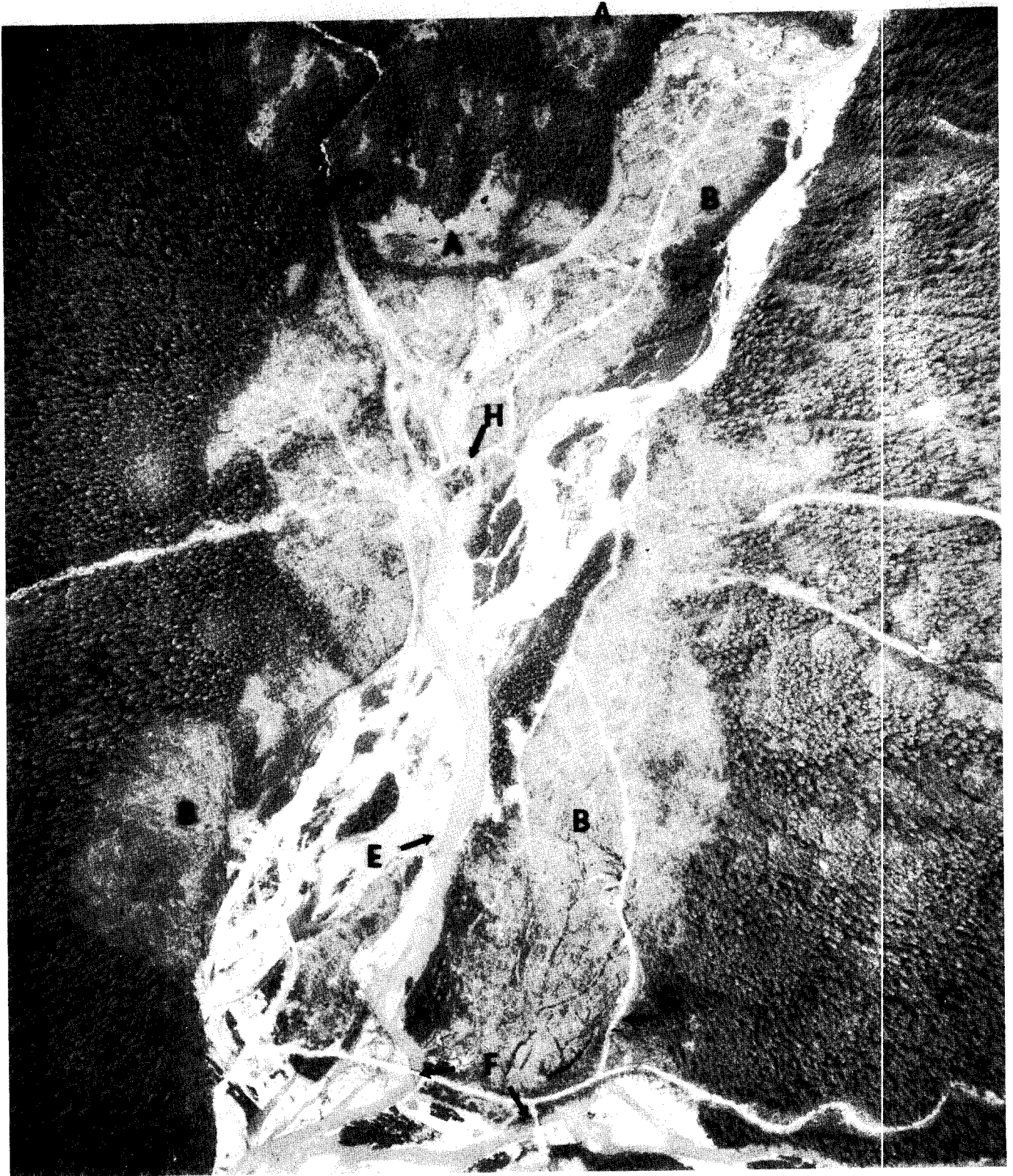
Appendix G

Photographs of the  
Bradfield River Drainage

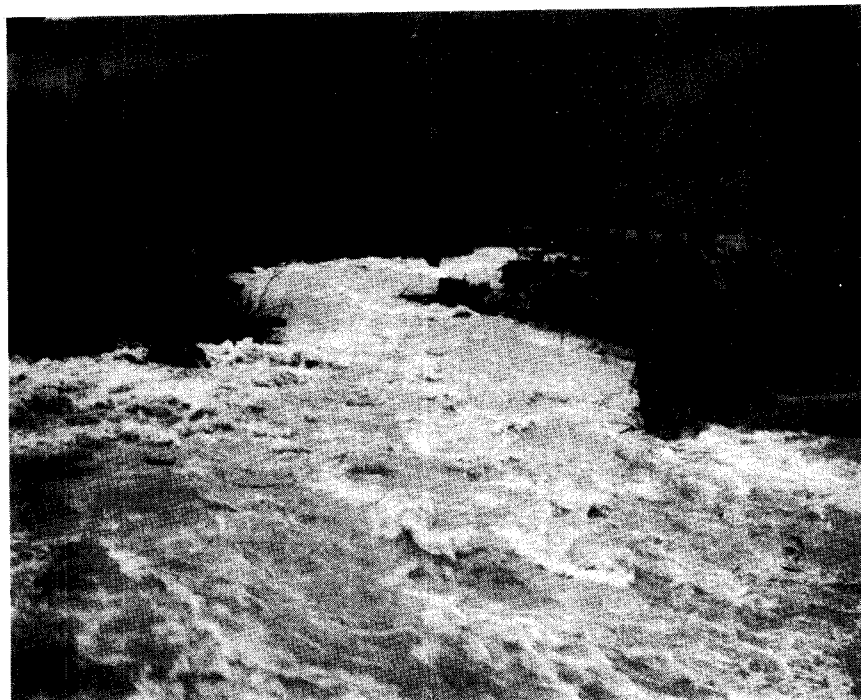




Bradfield Camp location. A. log raft construction area, B. log dump, C. camp, D. float plane pond, E. temporary road, F. airstrip, G. tidal grass flat.



Typical Bradfield River timber harvest. A. natural forest opening, B. harvest unit, C. old growth Sitka spruce-western hemlock, D. salmon spawning tributary, E. North Bradfield River, F. existing temporary bridge, G. temporary road, H. former bridge site.



Bradfield River, fall 1970. Water runoff from side stream.



Bradfield River in flood stage, fall 1970

Appendix H  
Discussion of Harvest Techniques

## HARVEST TECHNIQUES

The choice of harvest techniques for any timber can be compared with the choice of harvest methods for a farm crop. Factors that are considered in making such choices can be broadly classed as either economic or environmental, and some which relate to both. Economic factors as they apply to the choice of harvesting method tend to point to a method which is practical at the location of the harvest. The availability of any method depends on how many of the known methods compete economically with each other under the conditions found.

It is often difficult to understand why a method is in common use in one locality while not in another, until the economics are understood. In the harvest of a crop, the market value of this crop provides all of the value from which harvesting and other costs are paid. When the market value of a crop is less than the harvesting and other costs, then the crop becomes uneconomical and is left where it grew until a method is found which costs less to harvest it or until the market value of the crop rises to provide enough value to pay these costs.

For many years in Alaska, a market for pulp timber did not exist. When pulp mills were built, the market value for this timber provided enough to pay for the harvesting and other costs. In the Pacific Northwest, the demand for timber in recent years has raised the market value so that more costly and sophisticated equipment and methods can be paid for from this higher value. In Alaska, timber's market value has not risen as much in relation to harvest and other costs as in the Northwest due to factors such as lack of private timber holdings, different kinds of timber, higher costs of operating and living, and export regulations.

Harvesting systems such as skylines, balloons and helicopters show promise. They are now workable in some areas of Oregon and Washington where there are high timber values and a need for resource coordination only provided by these systems. More use will probably be made of these systems as they are improved and more experience is gained in their use. So far, only one balloon system is operating in Alaska and has operated during the 1972 and 1973 seasons. Helicopters have not become an economic system, and skylines are rarely found. Tractors have recently been found to result in lowering of site quality on some soil types when used for harvest. Also, increased knowledge of the sensitivity of even some of the smallest creeks in the life cycle of salmon, has indicated tractors could only be used in such areas when covered with snow or ice.

Cross drains are built across temporary roads, culverts are removed, and temporary bridges are taken out. Landings and road banks are grass-seeded. These measures restore the natural drainage pattern and vegetative cover on the land and prevent erosion and stream siltation. Bridge construction and removal and blasting of rock is scheduled for the season which avoids damage to the salmon rivers and streams.

Suitability of various harvest techniques in the proposed harvest area are discussed below.

a. High-lead. This system utilizes a system of cables to drag a log to a spar tree or tower. Average reach for this system is 800 feet with a maximum of 1,200-1,400 feet. Roads must be built to within these distances of the timber to be harvested.

Rock bluffs in the Bradfield drainage limit both merchantable timber and reach. All of the timber in the proposed harvest area is within the capabilities of this system. The topography allows road construction on locations to facilitate high-lead logging without serious resource conflicts. Landing locations for spar trees or towers are available.

b. Tractor. This system utilizes a tracked overland tractor to drag logs to a landing on the road. Environmental factors such as moist and organic soils limit this system to slopes of less than 10 percent on this sale. Topography eliminates this system on much of the proposed harvest area. Soil conditions and drainage limit much of the land not eliminated by topography. This system does not appear to be a feasible harvest technique in the harvest area proposed.

c. Balloon. This system utilizes a lighter than air vehicle and a system of cables to raise logs off the ground and "fly" them to a landing on a road system. Maximum reach is 4,000 feet. This system is used when merchantable timber is available to a road system over long distances and the cost of yarding by such a system is less than road construction costs or when roads cannot be constructed without other resource damage. This system also can be used to harvest timber using selection silvicultural methods. Balloon logging is now in the development stages in Alaska.

There are operational and economic limitations associated with balloon logging in Alaska that must be overcome before its use becomes widespread. Some of the problems experienced to date include strong winds that restrict its use, helium loss due to tearing of the fabric, and mechanical breakdown of yarding machine.

Appendix I  
Letters of Respondents



DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT  
ARCADE PLAZA BUILDING, 1321 SECOND AVENUE  
SEATTLE, WASHINGTON 98101  
December 12, 1973

REGION X

Office of Community Planning  
and Management

IN REPLY REFER TO:

MS 307

Mr. James S. Watson  
Area Manager  
Stikine Area, Tongass National Forest  
Box 309  
Petersburg, Alaska 99833

Dear Mr. Watson:

Subject: Draft Environmental Impact Statement, East Bradfield River  
Timber Sale, U.S. Forest Service, Alaska Region

We have reviewed the draft statement submitted with your November 29,  
1973 letter.

The proposed action is the timber sale which would harvest approximately  
80 million board feet of Sitka spruce and hemlock from the East Bradfield  
River drainage located in Stikine Area, Tongass National Forest 38 miles  
southeast of Wrangell, Alaska.

We find that your statement does not indicate the manpower requirements  
nor the time requirements to complete the timber harvest. These require-  
ments may have an impact on housing and other associated facilities in the  
town of Wrangell. We suggest these possible impacts be noted in your  
final statement. Aside from this concern, we find no objection to your  
proposed action.

Thanks for the opportunity to review and comment on your statement.

Sincerely,

John R. Merrill  
Assistant Regional Administrator  
for Community Planning and Management

cc: CEQ (10)  
Jim Miller  
Richard Moore  
M.D. Majors

STIKINE AREA	Area Mgr.	
	Plan. Mgr.	
	R.L.W.W. Mgr.	
	Soils	
	L.A. Eto.	
	Log Spec.	
	Area Const.	
	Pre-Const.	
	Const.	
	T. M.	
	Pre-Sale	
	R. M. A.	
	A. O.	
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Kate Copy		



U.S. ENVIRONMENTAL PROTECTION AGENCY



ALASKA OPERATIONS OFFICE  
Room G66, Federal Building  
605 West Fourth Avenue  
Anchorage, Alaska 99501

REPLY TO  
ATTN OF:

January 25, 1974

Mr. James S. Watson, Area Manager  
United States Forest Service  
Stikine Area, Tongass National Forest  
Post Office Box 309  
Petersburg, Alaska 99833

Re: Proposed Timber Harvest in the  
East Bradfield Timber Sale, Draft  
Environmental Impact Statement

Dear Mr. Watson:

The Environmental Protection Agency has reviewed the subject draft impact statement and has ascertained that it adequately considers the environmental impact of the proposed project. We do not anticipate any significant adverse environmental impacts as a result of the project.

This draft impact statement has been classified as Category LO-1. The classification and the date of EPA's comments will be published in the Federal Register in accordance with our responsibility to inform the public of our views on proposed Federal actions under Section 309 of the Clean Air Act.

Definitions of the categories are provided on the attachment. Our procedure is to categorize our comments on both the environmental consequences of the proposed action and the adequacy of the impact statement at the draft stage.

If you have any questions concerning our categorization procedure, please let us know.

Sincerely yours,

*Oscar E. Dickason*

Oscar E. Dickason  
Director  
Alaska Operations Office

Attachment

STIKINE AREA	
JAN 29 '74	
Plan Mgr.	.....
R.L.W.W. Mgr.	.....
Soils	.....
L.A.	.....
Fish Bio.	.....
Log Spec.	.....
Area Const.	.....
Pre-Const.	.....
Const.	.....
T.M.	.....
Pres. Copy	.....
R.M.A.	.....
A.O.	.....
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Make Copy	.....

### Category 3--Inadequate

EPA believes that the draft impact statement does not adequately assess the environmental impact of the proposed project or action, or that the statement inadequately analyzes reasonably available alternatives. The Agency has requested more information and analysis concerning the potential environmental hazards and has asked the substantial revision be made to the impact statement.

If a draft impact statement is assigned a Category 3, no rating will be made of the project or action, since a basis does not generally exist on which to make such a determination.

regard may be considered "favorable." Generally, however, their execution results in minimizing damage rather than in enhancing the fishery resource potential and, in that broader sense, such practices should probably be termed "protective" rather than "favorable."

#### Section IV. Adverse Environmental Effects that Cannot be Avoided

Studies by the Alaska Department of Fish and Game and the Forest Service indicate that a certain amount of cover is beneficial to fish if allowed to remain in the streambed. The draft statement indicates (page 15) that roads constructed during the sale will facilitate stream clearance. If log jam removal is to be a condition of this sale, the final statement should include specific plans for log jam removal and indicate the coordination that will be required with the ADF&G to maximize the benefits of such removal with regard to fish passage. If log jam removal is not anticipated as part of the sale, this point should also be made clear.

Further, we believe concluding that "the effects of log rafting on bottom-dwelling marine organisms are confined to the area under stored rafts" is premature. The very reason that more research is needed on the impact of log rafting and related activities on the estuarine environment is that no one yet knows the extent of such impacts.

#### Section V. Alternative Actions Considered

Although knowledge of the economics involved in various methods of timber harvest is outside our area of expertise, the practical effects of these harvesting methods on the environment, especially with regard to road construction, are of vital interest to us. We have noted that the Hahn Logging Company, in conjunction with Columbia Construction Helicopters, has contracted to log 4,000,000 board feet of timber from Copper Mountain on the west side of Prince of Wales Island using helicopters. This demonstration began on September 8, 1973, and the helicopter being used there has hauled up to 125,000 board feet in a single day, according to an article in the October issue of the "New Alaskan." Perhaps information on the cost per thousand board feet or other data from the Copper Mountain sale could be incorporated into the final statement to substantiate the statement that the alternative of helicopter logging is not considered feasible for the East Bradfield River sale.

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# United States Department of the Interior

OFFICE OF THE SECRETARY  
PACIFIC NORTHWEST REGION  
P.O. Box 3621, Portland, Oregon 97208

ER-73/1548

February 8, 1974

Mr. James S. Watson  
Area Manager  
Stikine Area  
Tongass National Forest  
P. O. Box 309  
Petersburg, Alaska 99833

Dear Mr. Watson:

We have reviewed the draft environmental statement for the East Bradfield Timber Sale. The following comments are offered for your consideration.

## General Comments

The statement is vague in discussing impacts on soil, water, fish and wildlife. There are no indications that corrective and protective aspects are actually contained in the timber sales contract. That point should be discussed fully.

Details are given for economic impacts of the project, but points of environmental concern are not fully discussed. A more thorough discussion of specific project impacts would be desirable. While information found in the appendices is useful, it is not an adequate substitute for specific information.

## Specific Comments

Environmentally the most significant item of the proposed timber sale seems to be road construction within the narrow confines of the Bradfield Valley. The valley floor is no more than 1/4 mile wide in the sale area, yet roads will be constructed on both banks of the river and all timber harvest is within this narrow corridor. The environmental statement does not directly address itself

STIKINE AREA

FEB 13 '74

Area Mgr. \_\_\_\_\_  
Plan Mgr. \_\_\_\_\_  
R.L.W.W. Mgr. \_\_\_\_\_  
Soils \_\_\_\_\_  
L.A. \_\_\_\_\_  
Fish Bio. \_\_\_\_\_  
Log Spec. \_\_\_\_\_  
Area Const. \_\_\_\_\_  
Pro-Const. \_\_\_\_\_  
Const. \_\_\_\_\_  
T.M. *plus* ✓  
Pro-Sale \_\_\_\_\_  
R.M.A. \_\_\_\_\_  
A.O. \_\_\_\_\_  
A.A. \_\_\_\_\_  
Chief \_\_\_\_\_  
File \_\_\_\_\_  
P.C. Card \_\_\_\_\_  
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Kale Copy \_\_\_\_\_

result from clearcutting and road building. What is the impact of this on fish and waterfowl habitat and associated hunting and fishing opportunities? What precautions will be used to alleviate the impacts of siltation?

The statement does not include any information regarding the possible existence of rare or endangered species within the project area.

The proposed timber sale would remove this area from consideration for wilderness designation, under the Wilderness Act, but it is not clear if this area has, in fact, been thoroughly studied and subsequently disqualified. The roadless condition of the area is in part responsible for the writing of the impact statement.

Existing recreation use should be "quantified" insofar as it is possible. An estimate of the number of people using the area now and in the future (both with and without the timber harvest) would help reviewers to evaluate the recreational value and potential of the area.

We suggest that you contact the Alaska State Historic Preservation Officer to determine if any sites eligible for the "National Register of Historic Places" will be affected. His address is: Director, Division of Parks, 323 East Fourth Avenue, Anchorage, Alaska 99501

Sincerely,

A handwritten signature in black ink, reading "Roy H. Sampsel". The signature is written in a cursive, flowing style with a large initial "R".

Roy H. Sampsel  
Special Assistant  
to the Secretary

ADVISORY COUNCIL  
ON  
HISTORIC PRESERVATION

WASHINGTON, D.C. 20240

December 10, 1973

Mr. James S. Watson  
Area Manager  
U.S. Department of Agriculture  
Forest Service  
Stikine Area  
Tongass National Forest  
Box 309  
Petersburg, Alaska 99833

STIKINE AREA	DEC 17 '73	Area Mgr.	Plan Mgr.	R.L.W.W. Mgr.	Soils	L.A.	Fish Bio.	Log Spec.	Area Const.	Pre-Const.	Const.	T. M.	Pre-Sale	R. M. A.	A. O.	A. A.	Clerk	File	F. C.	Card	Wrgl. Copy	Kate Copy

Dear Mr. Watson:

This is in response to your request of November 29, 1973, for comments on the environmental statement for the proposed East Bradfield Timber Sale, Alaska. Pursuant to its responsibilities under Section 102(2)(C) of the National Environmental Policy Act of 1969, the Advisory Council on Historic Preservation has determined that your draft environmental statement is inadequate regarding our area of expertise as it does not contain sufficient information to enable the Council to comment substantively. Please furnish additional data indicating:

- a. Compliance with Section 106 of the National Historic Preservation Act of 1966 (16 U.S.C. 470(f)). The Council must have evidence that the most recent listing of the National Register of Historic Places has been consulted (see Federal Register, February 28, 1973, and monthly supplements each first Tuesday thereafter) and that either of the following conditions is satisfied:
  1. If no National Register property is affected by the project, a section detailing this determination must appear in the environmental statement.
  2. If a National Register property is affected by the project, the environmental statement must contain an account of steps taken in compliance with Section 106 and a comprehensive discussion of the contemplated effects on the National Register property. (Procedures for compliance with Section 106 are detailed in the Federal Register of November 14, 1972, pp. 24146-24148).
- b. Compliance with Executive Order 11593 of May 13, 1971.

STATE OF ALASKA

**OFFICE OF THE GOVERNOR**

WILLIAM A. EGAN, GOVERNOR

STATE PLANNING AND RESEARCH

POUCH AD — JUNEAU 99801  
PHONE 586-5386

February 11, 1974

Mr. James S. Watson  
Area Manager  
U.S. Department of Agriculture  
Stikine Area  
Tongass National Forest  
P. O. Box 309  
Petersburg, Alaska 99833

Dear Mr. Watson:

Subject: East Bradfield Timber Sale;  
Draft Environmental Impact Statement  
State I. D. No. 73113001

STIKINE AREA	
FEB 14 '74	
Area Mgr.	_____
Plan Mgr.	_____
R.L.W.W. Mgr.	_____
Soils	_____
L.A.	_____
Fish Bio.	_____
Log Spec.	_____
Area Const.	_____
Cons.	_____
T.M.	<i>Chen</i>
Pro. Sale	_____
R. M. A.	_____
A. O.	_____
A. A.	_____
Chief	_____
File	_____
P. C. Card	_____
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The Alaska State Clearinghouse has completed review on the subject project.

The following agencies were invited to review and comment:

State of Alaska

Department of Community & Regional Affairs  
Department of Highways  
Department of Economic Development  
Department of Environmental Conservation  
Department of Fish & Game - Southeast  
Department of Natural Resources  
Division of Parks - Anchorage  
Department of Public Works  
Department of Law

Seven of the above agencies responded.

The Department of Community & Regional Affairs stated:

The Department of Community & Regional Affairs has reviewed the proposed project. There is no indication that the project, as proposed, will have an adverse effect on this agency's operations.

There are two observations that should be pointed out. The first refers to the statement that the impact on fish resources will be positive and beneficial. The second point concerns the siting of roads within the sale area.

The Department of Environmental Conservation stated:

The Department of Environmental Conservation's review on this document indicates that there are areas where a more thorough discussion would help the final report. We do not believe this statement will be complete until the following items are more adequately treated.

- 1.) It is almost impossible to evaluate the environmental impact of a logging operation in a given area without a proposed plan. A proposed operations plan should be included.
- 2.) The document should include future timber sale plans. Does the agency plan to utilize additional timber from the area in five, fifteen or fifty years? The future harvest plans would have significant effect on the road development.
- 3.) What is the Petersburg-Wrangell working circle? A map of the working circle with a definition would be an aid to understanding.
- 4.) We believe that the environmental objective of timber harvest is not only to enhance the environment for human use while utilizing a renewable resource but must also protect wildlife resources and long range ecological cycles. The logging operation may do this, but their environmental objectives does not say so.
- 5.) There should be some authoritative research referred to which can substantiate the statement that after harvesting nearly twice the volume of the original stand will result.
- 6.) An alternative that should be discussed would be the impact of a change in the dimensions of the timber harvest area. That is, one which would include forests farther up the slope of the hillside and a shorter distance along the stream bottoms.
- 7.) There seems to be some paradox in the discussion of tree growth in the valley bottoms. Since the total sale is in the valley bottoms and regeneration is, according their statement, slower in this area, perhaps a hundred year cycle is inappropriate.
- 8.) They mention that there will be no effect on water flow from this proposed sale, at the camps, airstrips, temporary roads, log dumps will all be in tidal grass flats. This would indicate that some impact was possible, if only minor.
- 9.) There is only a passing mention of herbicide and fertilizing projects and possibilities. If they have such plans in the future, they should be discussed and any past experiments mentioned.
- 10.) We have to reject their statement that the timber harvest is not expected to cause any significant air or water pollution. We believe the milling, transportation, log dumps and storage areas and other satellite operations are a part of this operation and should be considered.
- 11.) The plans for the road beds in the area should be more thoroughly discuss-



To that effect, ADF&G strongly recommends that the statement under "Purpose" (p. 1) be critically reassessed and rewritten to reflect that, under the intent of the Multiple Use Act timber harvesting must be performed in consonance with balanced husbandry of zoological resources.

2.) A discussion of the manner by which the forest of Bradfield River Valley is integrated with the Petersburg-Wrangell working circle to: "determine the volume of commercial timber available, the amount of new growth, the effect of multiple-use consideration, and the number of years required to produce new stands, following harvest" for the determination of the calculation of "allowable cut" is essential to provide the reader with an appreciation of reasoning behind the 5 year and long term plans for timber harvest in the area.

3.) The subject matter under description, items 5 (page 4) through 11 (page 10) is mostly descriptive. The section on wildlife is very general. The entire section, from page 4 to page 10, should be redrafted to: a) indicate the kinds of ecological relationships between the bio-physical and botanical entities of the area, b) discuss the ecological role played by the Natural Forest in the sustenance of streams, waterfowl and game habitat, c) describe the main types of habitat encountered along the entire drainage (i.e., braided vs. non-braided stream channels, presence and extent of beaver ponds, nature of vegetative cover along various reaches of stream beds), d) discuss constraint imposed upon ecological consideration on logging practices, e) discuss and define the extent of natural forest that must be set aside to protect and maintain the sustain yield of zoological resources.

4.) It is ADF&G's position that environmental impact statement should discuss in detail:

- a) road system, location of material sources and required volume of various types of road building material
- b) permanency and non-permanency of road system
- c) location and extent of sites to be used for land storage and cold decking of logs
- d) various alternatives for log dump sites, rafting and temporary log storage area

The existing tideland permits and Corps permits shown in Appendixes C and D must be modified and updated. The present location of the dump pad, rafting pond, in the upper region of the tide flat is unsatisfactory. The present document should discuss in detail the impact of the past utilization of the site for dumping and rafting.

In ADF&G's opinion the indicated dump and rafting site requires a Corps permit in addition to the tideland permit.

5.) On page 13 under Marine Organisms, reference is made to: "a Corps of Engineers Permit (Appendix C) contains clauses which are designed to keep possible adverse effects (of dumping and raft building, storage) to minimum." Except for very general references in Items "d" and "s" on environmental control requirement, nowhere, in the language of the permits, are specific instructions as to the manner and kinds of controls the operator must abide by to insure State and Federal requirements for control, prevention, mitigation and redress of environmental damage.

Mr. James S. Watson

-7-

February 11, 1974

We have no adverse comments on the proposed sale. Our Buildings, Aviation, Marine Transportation and Water and Harbors Division would be very beneficially affected.

The State Clearinghouse hopes these comments will be of assistance to you in the development of a final environmental impact statement.

Sincerely,

A handwritten signature in cursive script, reading "Raymond W. Estess".

Raymond W. Estess  
State-Federal Coordinator

cc: C.A. Yates

Mr. James S. Watson  
December 31, 1973  
Page 2

Japan, eighty percent of Ketchikan Pulp Company's pulp production is sold in the domestic United States market, and supplies twenty-five percent of the entire United States' domestic market requirements for dissolving pulp. Foreign trade, and favorable trade balances, are of course vital. However, again, conservationists have argued loud and long about turning Alaska into a tree farm for the Japanese. For this reason, the vital contribution made to domestic needs by Ketchikan Pulp Company's production is a significant point to be noted.

Fifth Paragraph. The comment here should be expanded. The competitive disadvantage of Alaska timber in the domestic market is limited to saw timber (pulp is competitive), and this disadvantage is brought on by a combination of factors, rather than the single factor of high transportation costs, i.e., higher harvesting costs, higher costs of meeting environmental control demands, higher costs of processing, and higher percentage of low grade recovery, than prevails in either Canada or the forty-eight contiguous states. Although it's highly unlikely that the Jones Act will ever be repealed in its application to Alaska, it is not beyond the realm of possibility. If it ever is, the Forest Service export policy could be placed in jeopardy (and with it, the Southeast Alaska timber industry) if the Impact Statement suggests that removal of the Jones Act restriction would in fact render our timber competitive in the domestic United States markets. With or without the Jones Act, Alaska timber will not be competitive in domestic United States markets for years to come, due to the other factors mentioned.

Sixth Paragraph. More important, perhaps, but certainly in addition to, the "force of loggers" would be the ongoing presence of a viable timber industry which has developed the capability of moving from the old growth harvest economy to the regrowth harvest economy.

Page 11, Section 14, Second Paragraph. The economic dependency upon wood use industries is not localized to Ketchikan and Wrangell. The centralized location of the Stikine area renders its timber attractive to wood use industries throughout Southeast Alaska. In addition, the mills in the Tongass of necessity must now look to timber in the Tongass without regard to either the location

Mr. James S. Watson  
December 31, 1973  
Page 4

must be held to acceptable levels. We do not believe the Tongass contains enough commercial timber to selectively locate sales under a "least adversely impacted" standard.

Pages 18-25. Does not the extreme over maturity of the Tongass of itself (although certainly in combination with the other factors noted) militate against selection cutting and shelter wood system cutting, and provide a mandate for clear cutting? The denseness of the overage growth and the slight percentage of young growth would render it physically impossible to selectively log the overage without destruction of the younger growth. Even if the overage could be removed without damage to the younger growth, is not the volume of younger growth almost totally insignificant? As to shelter wood logging, are there even any virgin timber stands in the Tongass in which there are patches of timber that are not of merchantable size whose growth would be promoted for later harvest? Is not clear cutting the only sensible method of harvest from a silvacultural standpoint of a forest as over mature as the Tongass? My point here (I guess) is that this portion of the statement is basically a generalized statement, applicable to all forests, and that the specific harvest techniques selected for the Tongass are founded primarily upon the unique nature of the Tongass (i.e., extreme overage, limited volume of young growth mix, high percentage of ongoing decay). The Izaak Walton vs. Butz suit indicates to us that the unique nature of the Tongass, as compared to other forests, upon which the need to clear cut is actually premised, should be detailed to the fullest extent possible. In addition, it is not too early to start laying the groundwork to head off the possible adverse effects of Senate Bill 2620 (clear cut study and moratorium bill).

In addition to the foregoing, we have the following comments not tied to any particular reference in the impact draft.

We also feel it would be appropriate to detail the desperate need of the Southeast Alaska economy for an ongoing timber sales program, with the goal of reaching the annual allowable cut in the Tongass National Forest. The dependency of the Southeast Alaska economy is unique when viewed in any context. The environmental impact of the drastic decline in sale activity over the past few years is already being felt, with mill production curtailments scheduled for Klawock and Metlakatla in 1974. In this connection, we are enclosing a copy of our Memorandum filed with the Office of the Chief, in the hopes that some of the detail contained therein might warrant your consideration on this point.

Mr. James S. Watson  
December 31, 1973  
Page 6

in fact dead, matured, or large, and such younger growth as is within the sale area is of such limited volume, generally stunted and otherwise not really capable of being promoted into vigorous ongoing growth, that marking the cutting area within a given sale area accomplishes the same purpose as ascribed to the statute by the Court. If this concept has any merit, the place for its consideration is obviously the Impact Statement. Another point to consider is that the plaintiffs in the Butz suit, in distinguishing the Champion International decision (Sierra vs. Harden, District Court, District of Alaska) from the Butz facts (Plummer having held that the size of the sale militated against marking every tree) pointed out that exact distinction, i.e., the impracticality of marking every tree in a large sale as opposed to the small sales in the Butz case. Possibly, something could be worked into the Bradfield Impact Statement that covers this consideration as well, without raising too many red flags.

We want to again thank you for extending us the opportunity for comment on the Bradfield Impact Statement. As we mentioned in our first inquiry, our concern is directed toward suggesting material which would lend further support to the statement, and we hope our comments will be so received.

Very truly yours

ALASKA LUMBERMEN'S ASSOCIATION

By



C. L. Cloudy, Counsel

CLC:bh  
enc.

cc - Mr. C. A. Yates  
Regional Forester  
United States Department  
of Agriculture  
Forest Service  
P. O. Box 1628  
Juneau, Alaska 99801

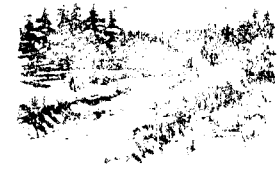
Mr. Frank Price  
Timber Management  
Division Chief  
United States Department  
of Agriculture  
Forest Service  
P. O. Box 1628  
Juneau, Alaska 99901

ALASKA LUMBERMEN'S ASSOCIATION

P.O. Box 979

Ketchikan, Alaska

99901



January 8, 1974

Mr. James S. Watson  
Area Manager  
United States Department  
of Agriculture  
Forest Service  
Stikine Area  
Tongass National Forest  
P. O. Box 309  
Petersburg, Alaska 99833

Re: Draft Environmental Statement  
East Bradfield Timber Sale

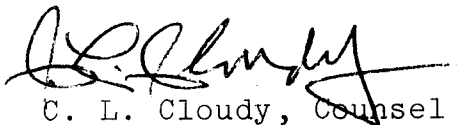
Dear Mr. Watson:

We wish to correct a statement made on page 5 of our letter to you under date December 31, 1973, with regard to the percentage of total logging fuel consumption assigned to road construction. The eighty percent figure is not entirely accurate in the context in which it appears. A more precise reference would be one which takes note of the number of gallons of fuel saved by reason of having the existing road system in place. Presumably, this information is available from the records of the prior sale. This saving, as noted in our letter, is the significant environmental plus factor with which we are concerned, rather than the percentage of fuel devoted to construction.

Very truly yours

ALASKA LUMBERMEN'S ASSOCIATION

By

  
C. L. Cloudy, Counsel

CLC:bh

Ketchikan, Alaska  
January 5, 1973

James W. Watson, Area Manager  
Sitikine Area  
Tongass National Forest

Dear Mr. Watson:

I have a number of general comments on the Draft Environmental Impact Statement for the East Bradfield River timber sale. In general, I do not feel that sufficient data as to the other resources in the area has been presented. There is entirely too much use of "probable", "it does not appear," "it is not believed", "thought to", "it is likely", "may be necessary", "is not expected", "could be" and "may be", etc., for one to be able to make judgments regarding the impact of cutting on other resources.

What evidence is there to support the statement that there are 80 million board feet of "over-mature" Sitka Spruce and Western Hemlock in the 2,076 acres to be logged? Malcolm Doiron, Chairman of the Tongass Conservation Society, who scaled and graded logs in the Ketchikan area for 7 years made the following statement in a review of "Resources of the South Tongass National Forest."

"....he never found over 30% defect in any one raft. Defects ran as low as 10% and averaged 15-20%. Discussions with other log scalars showed opinions to be the same as his. Many rafts have had large numbers of trees containing roots and the terminal bud. This is an indication of small trees being taken .....

These figures...are the result of scaling logs that have reached the mill. This indicates, however, that either the commercial timber stands do not consist of 95% of overmature trees or that, if this is true, a larger percentage of timber is left on the ground than is being brought out to the mill."

The E. I. S. should supply data to substantiate the figure used.

The Impact statement does not make clear what silvicultural methods are planned. Clear-cutting in itself does not constitute silviculture. The statement is made that "Silvicultural treatments such as thinning or fertilization may be necessary." Under Favorable Environmental Effects, the statement is made that "From a wood fiber production standpoint the proposed action would create young stands that could be silviculturally managed for increased quality and growth."

Why could be? Any expected silvicultural treatments could be spelled out in the E.I.S. along with the costs. I personally question that "the timber productivity of the drainage will be enhanced" unless silviculture is actually practiced. Is the stumpage adequate to pay for this along with road building and administrative costs and still yield a decent return to the public owners

these exports helping the Balance of Payments, figures compiled by Senator Packwood indicate the reverse is true. The net deficit in trade for 1972, due to exporting raw materials and importing finished lumber was \$432,953,200.

Why is the statement made that "Timber harvest in the East Bradfield River would provide raw material needed to meet State, national and international timber demands" when it is all destined for the Japanese market. The myth of cutting Alaska's forests to meet the needs of the American people is one the Forest Service needs to abandon.

Present Forest Service policies appear aimed at liquidation of Alaska's old growth forests inside 100 years. Around 50% is scheduled for cutting in the first 50 year period. I question that there will be any saw timber for the production of lumber at the end of the first 100 years. In a 40 year old clear-cut recently visited, the largest trees were 6-8 inches in diameter. Most were much smaller. Any saw timber we have in the next 100 years will be of very small dimensions.

#### Air, Climate and Weather

Any impact of clearcutting on weather and climate modification needs to be seen as a part of the whole pattern of clearcutting in the Pacific Northwest, not just in terms of the 2076 acres in this area of the Bradfield. The total effect of all of this clear-cutting could be a significant decrease in the absorbed radiation in the northern hemisphere with possible severe climatic changes. A paper at the 1973 Alaska Science Conference at the University of Alaska on "Ice Ages and Northern Forests" pointed to this possibility and noted that the removal of these northern forests could decrease the absorbed radiation in the Northern Hemisphere by 0.84% or roughly 1/2 the reduction estimated necessary to trigger a new ice advance.

On a local level, clear-cutting can open the area up to winds of increased velocity as well as resulting in lower temperatures in the cut-over areas and in the streams.

#### Wildlife

Information as to numbers, species and distribution appears to be lacking and should be obtained prior to the time timber sale layouts are planned. "Brown and black bear....are thought to den in the upper portions...." is not adequate



and H. These were missing from the copy to which I had access. These pre-cuations should at least have been spelled out in outline form in the text. No mention is made of providing for leave strips along streams. The Forest Service and the timber industry have used the argument of wind throw as a reason for not leaving standing timber along streams. As stated in the "Leopold" Report,

"Some windthrow will always occur when the forest is opened up; windthrow is a major natural mortality for most stands of timber in Southeast Alaska. However, it can be minimized by careful planning and must be considered a cost of preserving other values of the forest."

In 1970, the Federal Water Pollution Control Administration issued a report "Industrial Waste Guide, Logging Practices." Logging was described as one of the most serious sources of water pollution in the Pacific Northwest. This report gives recommendations regarding buffer strips to use "all reasonable means and alternatives that will keep every road and logging activity as far from the stream courses as possible."

Dr. Richard Myren, fisheries biologist of Juneau, has summarized the general adverse effects of logging on salmon and trout production. "There is no mention of these in the E. I. S. Briefly these effects are as follows:

Lack of oxygen and buildup of waste products around eggs and larvae in the gravel due to siltation and increased oxygen consumption by logging debris.

High temperature or low temperatures and freezing due to the absence of a forest canopy. Disease due to widening of temperature fluctuations due to absence of forest canopy.

Inhibition of alevins to emergence from spawning gravel due to siltation.

Washout of eggs and larvae from alteration of streamflow regimen by changes in peakflow patterns and movement of logging debris into streams from clearcutting.

Loss of rearing area for coho salmon and resident trout and char due to clearcutting of small tributary streams, leaving slash in small streams, removal of trees which create rearing area pools from the stream in "stream improvement programs."

Stream clearance programs, according to the Alaska Department of Fish and Game, result in habitat conditions less desirable than those occurring naturally. A Sport Fish Division "Special Report to the Alaska Board of Fish and Game" for 1971 indicates that although progress had been made in protecting small streams (the rearing areas for coho salmon, trout and char) protection has been limited to a few instances and stream damage is still occurring throughout Southeast Alaska.

In spite of the recommendations regarding leave strips and the lack of value of stream-clearance programs we find in the E.I.S. the statement that

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their appreciation of aesthetic values. Since the plan is to put these roads to bed, even this type of recreational use will be of temporary duration. There is no way that clearcutting can be said to "enhance the environment for human use."

What evidence exists as to the actual lack of "quality sport fishing"? Distance from population centers, inaccessibility, lack of permanent means of access can actually be an advantage to high quality recreation in the valley. The number of "similar coastal areas" not slated for logging are very few in number in southeast Alaska. As these unspoiled areas continue to decrease, every unspoiled natural area will increase in value. The Forest Service planning for recreational needs is geared either to the present or to the next decade. What is needed are plans for the next century.

Thank you for the opportunity to comment on this Draft Impact statement. I will appreciate receiving a copy of the final Impact Statement when it has been prepared.

Sincerely yours,

cc C. A. Yates  
Alaska Conservation Society  
Alaska Chapter, Sierra Club  
Tongass Conservation Society

Mrs. Dixie M. Baade  
P. O. Box 2391  
Ketchikan, Alaska 99901

January 14, 1986

Mr. Watson,

This letter is in reference to the last Bradfield River Timber Sale draft environmental statements. I would like to thank you for sending me a copy. I have no comments to make on the DES - I sent for a copy not out of particular interest in this sale, but rather out of a general interest in timber management practices. The DES was very informative in this regard, particularly the two pamphlets in the appendix and pp. 18-25 of the DES itself.

Thank you again for sending me a copy; I would appreciate receiving a copy of the FES for the timber sale, when it is issued. Thank you.

Pat Ford  
800 Saturn Ave.  
Idaho Falls, Idaho 83401